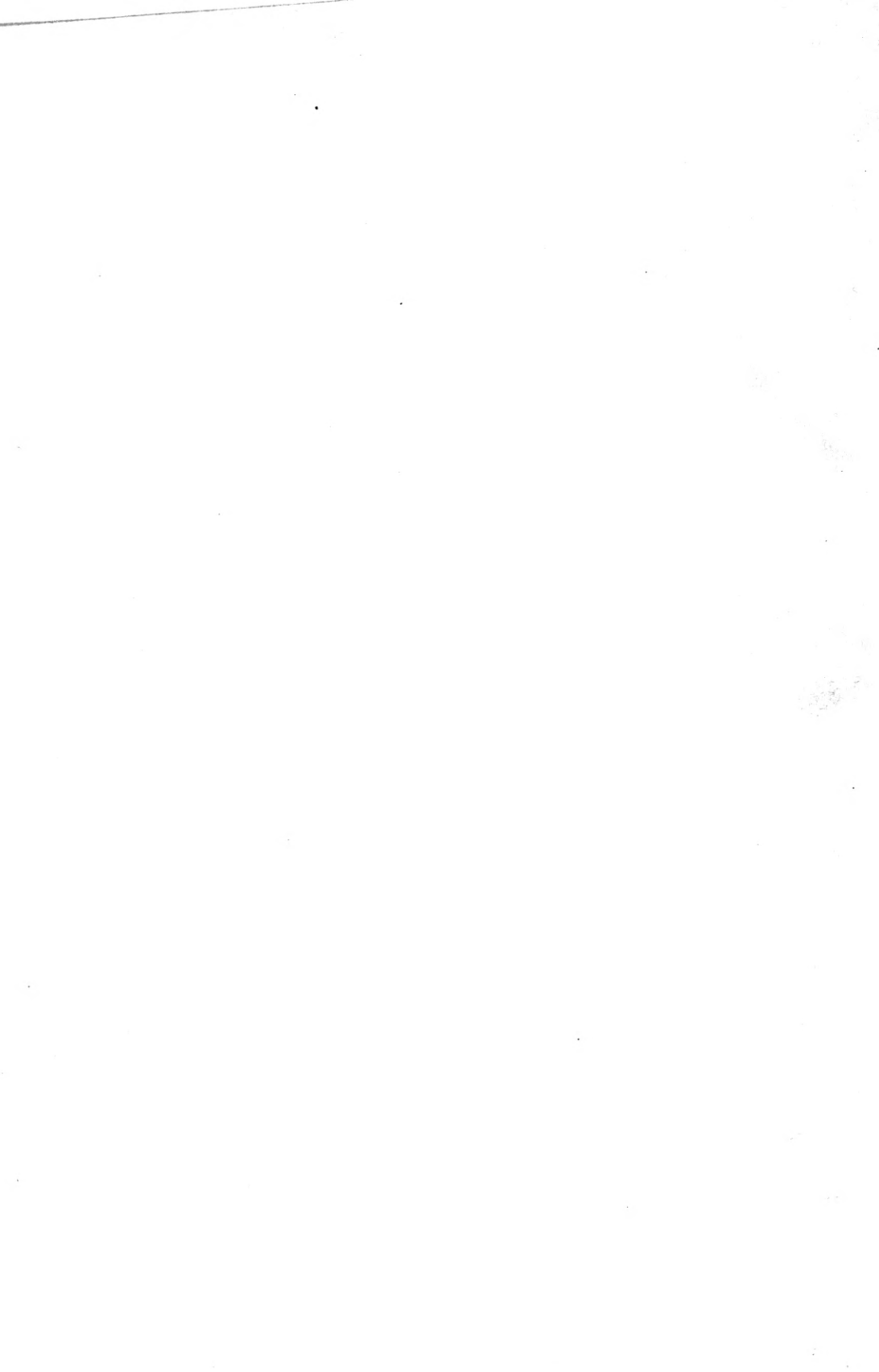


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In Advance

Heroes Unknown, Unhonored and Un-

sung.—The illustration on our front cover is interesting as showing the risks conscientious medical men are constantly taking in their devotion to the needs of suffering humanity. The picture shows a child unconscious and almost moribund as the result of a severe burn. The frantic mother, a French refugee, had carried it in her arms twelve miles in bitter cold weather to the American Red Cross Hospital at Toul, France. Its injury, together with malnutrition and exposure to cold, had brought the little one close to Death's door. Recognizing its dying condition, the Red Cross doctor wasted no time, but promptly essayed to save its life by forced, or mouth to mouth respiration. It is not necessary to dwell on the danger to the doctor. The risks he took are obvious but he never gave them a thought. He only saw the patient Fate had brought under his care, a little unknown French kiddie to be sure, but still a human being whose life was "hanging by a thread." So, totally oblivious of any personal danger to himself, and without a moment's hesitation, he took the course that offered greatest promise of saving the little one's life. Slowly, painfully but regularly its lungs were filled and emptied, and soon with the restoration of rhythmic respiration, the heart-beat grew stronger, the blood again coursed thru its arteries and veins, and at last the child began to breathe natu-

rally. Then other restorative measures could be applied and in a short time the doctor had the satisfaction of knowing that one more patient owed its life to his efforts.

Brave? Yes. A hero? Beyond all doubt. Probably there are no words of praise or credit that the happy mother failed to use in describing the skill of the doctor who had saved the life of her child. Can one doubt that he was a hero in her eyes?

But to the doctor himself, the thing he had done was not remarkable. The emergency presented itself and he met it according to his best judgment and ability. To him it was all in the day's work.

Every true medical man is constantly meeting these emergencies that require courage, forgetfulness of self and faithful devotion to duty. The people at large rarely know of the dangers their doctors are meeting or the penalties they have to suffer as a result of conscientious work, night and day, under all conditions of weather, and often when they are worn out from overwork, loss of sleep and anxiety. It is too bad that the people do not know more of the personal side of medical practice, for if they did, we are sure that there would be a far greater tendency to appreciate the earnest, untiring work of the medical profession at more nearly its real worth.

At any rate, we do not hesitate to say that nowhere is there a more intelligent, more resourceful or more reliable type of

courage than can be found on the firing line of the modern practice of medicine. Our picture merely shows a simple, every-day experience for those who are doing emergency work.

Greetings.—A new year presents itself. The greeting of happiness is on the lips of millions thruout the world. Wishes for peace, pleasure and prosperity dominate mankind which is grappling with the means of securing them. The hideous shadows of war, pestilence, famine and hatreds still rest upon large areas, covering millions of human beings with depression, gloominess, and despondency.

It is our hope that 1920 will prove to be a *new* year, unique in developments for human progress, unprecedented in benefits conferred upon mankind. The reactions to strife may present fresh points of view that will foster a spiritual awakening leading to higher ideals and loftier practices.

Allegorically, the new year is pictured as an infant superseding the worn out and senile man who at a call of Kronos passes into the valley of the shadow of history. It is pleasant to regard the new born as possessing a full measure of vitality with a mind attuned to a life of activity and unselfish devotion to the future of all peoples. In the freshness of its spirit is found courage, faith, and optimism. Handicapped possibly, by its racial inheritance from the past, it will evolve under the influences of a strange environment into a creature of triumph, or an unsuccessful imitation of the least memorable of its predecessors.

While the gamut of human emotions is being sounded and irritability, unrest, and discontent pervade all lands, the new born

year has many conflicts of sound assailing it. If there be genius, the notes of beautiful symphonies will be heard, but if mediocrity prevails, there will result a mere cacophony of jazzed sound. Behind and beyond the struggles of the present time are springs of action seeking expression to give a richer content to human existence. There is a new vision and a new theory of life emerging from the cauldron of human experience. What this concentrate is to be, time alone can reveal. If, perchance, 1920 be truly *new*, some measure of the revelation may be forthcoming, and the year will then be worthy the term "happy."

Universal peace and progress are dependent upon the peace and prosperity of individuals, and both involve the health of body, mind and soul. To all those seeking to better the world in which we live, AMERICAN MEDICINE sends warmest greetings. To the medical profession in particular, we offer sincerest hopes for the new year, during which the medical profession may rise to greater and richer opportunities to dwell in health and happiness while pursuing its noble aim of safe-guarding and up-lifting humanity. United in effort, may the profession advance with hands, heads, and hearts prepared to spread the new gospel of health which must underlie the happiness of the new year.

Mentality and Obstetrical Forceps.—

In the course of a most valuable collective abstract on present-day problems in obstetrics (*Modern Medicine*, December, 1919) appears an excellent discussion on "Infant Mortality." The author, Dr. John T. Williams, therein points out the economic advantage of a child born free from injuries,

as compared with the mere birth of a living child. A still-born youngster is a loss to the state, but a handicapped infant is not only a loss but a continuous liability.

Considerable data are presented indicating the relation between difficult labor and the mentality of children. Prolonged labor may result in harmful compression with a resultant damage to the brain, that may cause various degrees of mental impairment from feeble mindedness to idiocy. While instrumental delivery has undoubtedly caused serious mutilation and some degree of hemorrhage, the action of the forceps, when properly applied, is rarely conducive to as severe cerebral damage as the prolonged pressure incident to difficult but spontaneous delivery.

The hereditary character of cerebral defects is so great that false emphasis should not be placed upon the use of the forceps, particularly when their application has been of short duration. Nor should undue injury be attributed to the application of forceps when their use has followed a severe and sustained effort at spontaneous expulsion of the infant.

Idiocy has been found present by Sachs in 60% of paraplegias, and in 13% of hemiplegias. Beach, on the other hand, established a history of prolonged parturition in 27.28% of idiots, but in only 3.3% were forceps used. In the Darenth Asylum for Imbecile Children, only 4.3% of 810 idiots had been delivered by forceps, while 26.6% were normally delivered after a prolonged labor.

From figures of this kind it is apparent that the obstetrical forceps are less a cause of permanent cerebral injury involving mental impairment, than has been the current opinion. The real traumatism is due rather to the prolonged pressure of the child's

head against the pelvis. Difficult delivery, therefore, is of serious consequence, and should be obviated in so far as may be possible. This leads to the question as to whether the earlier use of the obstetrical forceps might not be of greater value in lessening the development of cerebral defects that are not due to hereditary causes.

It is significant that among the various criticisms of obstetrical technic, so great prominence has been given to the part played by instrumental action in the occasioning of feeble mindedness. This judgment has rested upon theory and the introduction of a large amount of carefully compiled data appears to nullify to some extent the previous impressions as to the forceps responsibility. The case, however, is not closed, and a further gathering of facts is necessary before the true position of the forceps as related to feeble mindedness can be definitely established. It is of marked importance that the records of births be carefully studied in relation to the later developments of the children born, in order to arrive at a more trustworthy conclusion. In the light of present information, however, it is proper to ask what are the indications for the application of forceps as a measure designed to prevent any damage to the brain incident to prolonged labor.

Climate and the Tuberculous.—The tendency to send sufferers from tuberculosis to communities far remote from their homes needs to be checked. Too frequently, tuberculous individuals strain the resources of their families, relatives and friends in order that they may be sent to California, New Mexico, Colorado, and various other sections of the country pos-

sessing high altitudes. Having arrived at their destination, they find themselves lacking adequate funds to promote their physical betterment. Unable to secure employment and without sufficient medical care, they find themselves more or less adrift in a strange community with all the advantages of climate nullified.

Change of climates cannot accomplish miracles. In fact, climate in itself does not suffice as a justification for isolating tuberculous patients from their families and friends, and an adequacy of food, shelter, and diversion.

The Weekly Bulletin of the New York Department of Health, November 29, 1919, calls attention to the dangers of sending tuberculous residents to the West for cure, and properly stresses the advantages of home treatment in their own communities, where provision may be made for proper medical and social relief. The reasons offered merit consideration, not merely in New York City, but in all sections of the country, as they represent the consensus of present-day scientific opinions. "First.—The patient can be more readily returned to industry and adjust him or herself to the necessary changes, when treated in the climate and environment to which he or she proposes to return." "Second.—The patient has a better opportunity for securing employment when treated near home, because of acquaintanceship and social ties." "Third.—There is a greater likelihood of adequate care of the patients when treated near home, owing to their being near relatives and friends, and the charitable resources of the home community." "Fourth.—All authorities emphasize the four essentials for treatment which can be obtained anywhere and everywhere, namely, rest, food, fresh air, and proper medical attend-

ance." "Fifth.—As one medical correspondent puts it: 'It would give poor patients a more hopeful attitude toward the disease in that they would be taught that it is curable anywhere, and that they need not be hopeless because they cannot afford to go West.'"

The establishment of sanatoria in distant parts of the country, has caused emphasis to be placed upon these communities and climates, whereas the main benefit exists in the supervised care of the tuberculous in these institutions. Doubtless, there are numerous advantages in the sanatorial supervision which are of redeeming value, but sight must not be lost of the benefits available and procurable within the confines of their own city. Save for a few exceptional patients, superior treatment is to be had at home compared with that following upon a migration into unknown and relatively unfriendly sections.

It is far easier to maintain a healthful morale and to promote self support in one's own community, than to attempt to retain optimism and to establish financial independence in states already over populated by those seeking a renewal of vitality.

The responsibilities for the care of the tuberculous should not be cast off or evaded by a system of deportation, however well intentioned. Every community should establish its own facilities for the medical and social treatment of tuberculous patients, so that medical nursing and social relief may be at hand to guard the welfare of the community while fostering the cure of tuberculous individuals. Food, rest, fresh air, medical attendance, and nursing instruction form the bulwarks of defence against the inroads of tuberculosis, regardless of climatic conditions. These are the essentials of tuberculosis prophylaxis and

tuberculosis treatment; and as such comprise the essential basis of every program for reducing the morbidity and mortality from this scourge. Climate is of secondary consideration in the treatment of the tuberculous masses.

Medical Centralization.—The tendency to what is termed "paternalism in medicine," is expressed principally in the centralization of medical machinery. The growth of federal, state and municipal agencies along social lines has necessarily involved the grouping of medical activities under the control of representative, administrative officials. The rapid development of this form of public health practice has been so marked that many who previously have not been cognizant of the entire problems suddenly have awakened and appear to believe that they are confronted with a profound change in medical organization which demands immediate limitation and attempts at control.

J. E. Tuckerman recently published in the *Journal of Sociological Medicine*, a most excellent discussion of "Centralization in the Practice of Medicine—Causes and Effects," which was reprinted in the *Medical Fortnightly*, November 15, 1919. Herein is found a résumé of the growth of centralization from that period of time when public health work was closely allied to charity in that stress was placed upon district physicians giving service to the poor. The growth of the idea of medical assistance jumped rapidly to forms of organization now well illustrated by governmental agencies to afford medical facilities to all classes in the community. Furthermore, the collective activities have more rationally

been directed toward the prevention of disease.

The requirements of quarantine against communicable diseases have involved not merely systems of notification but an expansion of general sanitary regulations and the development of bureaus for the study of diseases and diagnostic laboratories for the determination of bacterial infections as an aid to the general practitioner. The extension of the activities of health departments in the provision of prophylactic and curative sera and vaccines has grown as a necessary health measure altho hastened by reason of the errors in our economic system. The value of these procedures is not in question, but they are indicative of one reason for the tendency toward centralization.

The growth of medical science has made it impossible for individuals to be possessed of the full measure of knowledge requisite for the refinements of modern diagnosis and treatment. The rapid spread of specialism is a further witness to the demand being made for special knowledge and the importance of making such special knowledge available to all sections of the country regardless of financial status. The benefits of centralization in specialism are acknowledged in large organizations devoted to the group practice of medicine and the tendency toward further development along the line of diagnostic clinics. These centralizing trends have passed the experimental stage and bid fair to grow rapidly in the interest of the general public.

The expansion of hospital and dispensary facilities demonstrate, similarly, efforts at centralization directed towards the improvement of medical service for the benefit of bed patients and those ambulatory sufferers requiring much careful investiga-

tion. Facilities offered by institutions are increasing in number, and, in all likelihood, efficient medical work will be found bound up in the welfare of such institutions rather than in the hitherto customary type of private practice.

Even the much abused contract surgeon finds his field of effort growing because of the increased demand for centralized medical protection under the auspices of industries, unions, and compensation commissions, to which the future may add the requirements of physicians to carry out provisions of health insurance laws.

It matters little what phase of public health work is considered. The socialization of medical work stands out in high relief. The recognition of the community as an essential factor in the occasioning of disease carries with it an implied responsibility of the community for the prevention of disease, the cure of sickness, and the mitigation of the complications and sequelae incident thereto.

The true basis of our tendency towards centralization is our desire for communal health, and an effort toward securing more efficient medical practice. It involves also an appreciation of the necessity of preventive work as superior to an attack upon disease which has gained headway. The motives are essentially philanthropic, and, despite cries of paternalism, are likely to extend along lines at present indicated in every branch of the public health movement. It becomes of major importance that the profession adjusts its point of view to the growth of social feeling, so that the alterations now going on may be thoroly understood and appreciated and the adjustments required may be made without disturbing the equanimity of the profession. The consequences to the profession will be

advantageous from every standpoint, and make the assurance of a competency more certain. The dignity of medicine is being elevated and the opportunities for service are being enlarged. Medical progress is gaining a new impetus by reason of the combination of efforts involved in cooperation and centralization.

Social Ethics.—Medical ethics have largely concerned themselves with the responsibilities and obligations of members of the medical profession toward themselves and one another. The code, as it exists at present, is by no means antiquated nor is its spirit inimical to professional interest. Some sections have been weakened thru the demand for greater publicity concerning phases of personal affliction endangering public health.

As a whole, the ethics of the Hippocratic oath reflects an interest in public welfare of not much less significance than that found in the present code of ethics. In other words, progress in social ethics has not been translated into the working formulae of the profession. Pragmatically, the greatest advance in medicine has been in the recognition of the large social values involved in medicine. This is excellently illustrated in the growing tendencies toward the socialization of medicine. The application of common sense, a social philosophy, and a wider grasp of medical potentials have given rise to a phase of medical thought which thus far does not possess a sufficiently wide distribution. For this reason the reported appointment of Dr. Richard C. Cabot, to a chair of Social Ethics at Harvard University is of tremendous importance.

No man in this country is entitled to greater commendation for pointing out the function and dynamics of social medicine than Dr. Cabot. His services as a clinician and diagnostician are greatly outweighed by his accomplishments in the realm of social diagnosis.

His pioneer efforts at the Massachusetts General Hospital, in the institution of medical social service, have been a stimulus to hospitals thruout the country and principally have been responsible for the evolution of social service in medical work on a high plane of efficiency. The induction, therefore, of Dr. Cabot to a chair of Social Ethics, is a merited tribute to his past accomplishments as a teacher, philosopher, and a social force in all communities.

The promulgation of the underlying factors of social ethics is to be hailed with enthusiasm. Interest in this field is more than academic as it discloses a recognition of the worth of this new branch of philosophical reasoning as applied to medicine. It combines an understanding of sociology, economics, medicine, and ethics. It has the emotional drive of a religion and the message which he is to send forth is fraught with vitality for the nation. To those who would grasp the import of social ethics there is a wealth of thought in such communications as "The Doctor and the Community," "Social Service and the Art of Healing," "What Men Live By," and "Social Work." In these volumes are to be found an exposition of social philosophy, social diagnosis, social treatment, and social ethics, which are essential components of the finest type of modern medicine.

The example of Harvard University will soon be given the flattery of imitation. The ethical instruction of medical colleges has

been lamentably weak. The possibility of expansion is increased thru a wider understanding of the broader vision contained in social ethics. Medicine is to be interpreted in terms of human relationships as well as medical fraternalism. Man, generically as well as specifically, must be contemplated by advanced thinking physicians seeking to sound the depths of social ethics.

The Conquest of Typhoid Fever.—The progress of sanitary developments was hastened with the development of the dynamics of immunization. Just as vaccination was successful in reducing the morbidity and mortality from smallpox, so the prophylactic inoculation against typhoid and paratyphoid have proven their immense value.

In the *Journal of the American Medical Association*, December 20, 1919, Col. F. F. Russell discusses, "Typhoid Fever in the American Army During the World War." Voluntary vaccination against typhoid in the army began in 1909 and was made compulsory in 1911. During the nine years preceding 1909 the case ratio per thousand in the army varied from 9.43 per thousand to 2.94 per thousand. In 1910, this fell to 2.32, while in 1911 it rapidly dropped to .85, and reached in 1914, .04 per thousand. During the war period, despite the millions of men in the army, the ratio of typhoid incidence remained at .44 in 1917, and .30 in 1918. The full merit of this accomplishment is realized when one takes cognizance of the fact that during these same two years the civil deaths from typhoid fever, in the age group of 20 to 29 years, was .11 per thousand in 1917 and .09 in 1918. These death ratios, however, must be considered

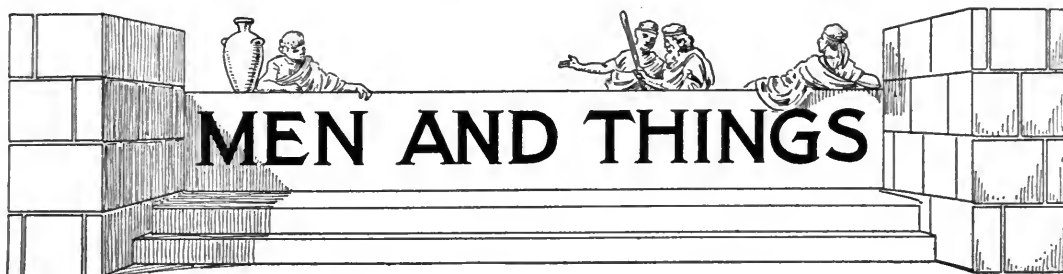
for males alone, in order to be properly compared with the army death rate. The civil typhoid death rate of males in the age group 20 to 29, was .14 in 1917, and .11 in 1918, as contrasted with .03 for the death rate per thousand of the army, and .05 in 1918. These figures are most significant of the striking benefits of typhoid immunization, and show the tremendous saving of human life resultant therefrom.

The higher death rate in the army during 1918, was due to a slightly increased mortality among the members of the American Expeditionary Forces in France, but nevertheless, the death rate was less than half the civil rate for males in the eleven original registration states. The full importance of this low typhoid mortality is patent when one considers the relative number of deaths that might have occurred, had the typhoid mortality rate of the Civil War or the Spanish American War prevailed. The actual number of deaths that occurred from typhoid fever during the recent war from September 1, 1917, to May 2, 1919, was 213. If the Civil War death rate had obtained, there would have been 51,133 deaths from typhoid, while if the Spanish American War typhoid death rate had existed, there would have been 68,164 typhoid deaths, basing calculations upon an average army strength of 2,121,396.

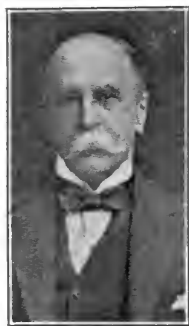
Despite a hurried mobilization, an army unaccustomed to military life, an intense and active new form of warfare, the anti-typhoid vaccination was successful in keeping down the typhoid mortality to a level actually lower than that existent among the civil population for whom the general type of sanitary measures was employed to a greater or less extent but without the compulsion of typhoid immunization.

Col. Russell calls attention without comment, to the decreased mortality from malaria and dysentery, which were responsible for only 13 and 42 deaths respectively. These are figures of startling efficiency and give abundant proof of the wisdom and thoroughness exercised in the protection of the army. It is obvious that the civilian population has considerable reason to question the efficacy of some of its present health administration in the light of the experience of those who were subjected to the rigorous hygienic measures employed for the protection of those whose duty it was to fight. Were it possible to adopt army methods, there would result a tremendous decrease in the death rate not merely from typhoid, malaria and dysentery, but from a large variety of diseases that take their toll during the age period which theoretically possesses the greatest strength and vitality.

In communities where high typhoid rates still exist, it would not appear unreasonable to make typhoid immunization compulsory. Were there as many deaths or cases of smallpox in the country as there are of typhoid fever, there would be much agitation and vigorous measures would be taken to enforce vaccination. The cause of the death is immaterial in weighing the consequences of a death, and the continued existence of deaths from typhoid fever that are preventable should be a sharp reason for reflection and give a new impulse toward preventing the continuance of deaths from this cause. If the solution of the problem lies in compulsory anti-typhoid inoculation, then this problem merits serious and thoughtful consideration. Let all civilians have the same degree of protection that was afforded some of the civilians who took up service in the army.



Osler Is Dead!—Probably no message ever went over the civilized world concerning a medical man that carried sorrow and regret to so many. Osler belonged to the world if he did live in England, and the whole world was proud of his ability as a physician. Able, broad-minded and rich in his supply of the milk of human kindness, fortunate indeed have been those who have had a chance to know him intimately. Wherever he has paused in his onward



progress to the highest positions in the practice and teaching of medicine he has left an indelible imprint of his personality and capabilities. His influence on medical science has been tremendous and we believe his work and contributions to medicine will be more and more appreciated as the years go on. The large medical weeklies have all given the details of his life and achievements. We can only say that a great physician has heard the last call and passed on, leaving the world richer by reason of the life he has lived, the lessons he has taught, and the legacy he has left behind him. Deeply do we regret his passing, but we are grateful for what he accomplished and the good he has done.

The Problem of Narcotic Drug Addiction.—Two years ago we printed a sort of symposium on the narcotic drug problem that unquestionably aroused an unusual amount of attention. An exceptionally large edition was sent out, but hardly a day has passed that numerous requests for copies of the issue have not been received.

Letters from all over this country and Canada have flowed in and it has been evident that the subject is one of very great interest to the medical profession.

How much influence the material presented in that number has had, no one, of course, can tell. But in view of the earnest character of the articles presented, and the comprehensive light in which the whole subject was placed by men who knew the true situation, it is reasonable to believe that the number did have some considerable effect.

In the two years that have passed since the issuance of the number referred to, much has transpired in connection with the problem of narcotic drug addiction. The execution of the Harrison Law has shown the serious proportions to which the illicit sale of narcotic drugs has reached, and to the infinite satisfaction of honest practitioners of medicine and druggists a number of crooked, unscrupulous physicians and pharmacists have been caught red-handed and made to feel "the heavy hand of the law." With every law-abiding physician who respects his calling, we certainly hope that every doctor who uses his profession as a means of dealing illegitimately in narcotic drugs, taking advantage of the dire need of those afflicted with drug addiction to enrich himself, will be exposed and made to suffer the consequences of his disgraceful and dishonest acts.

Unfortunately, in some localities, certain administrators of the national and state drug laws, in an excess of zeal, or in a misinterpretation of the laws' intents and purposes, have aroused such fears on the part of physicians as well as their patients, that the situation has been aggravated instead of bettered. At any rate, such doubt has been created as to the fairness, intelligence and kindly intent of some of the officials charged with enforcement of the narcotic laws, that patients have gone to all lengths

before submitting to humiliation, persecution and possible ruin, while medical men themselves, fearful of being hailed into court for some trivial mistake, or technical violation of the law, or subjected to worry, expense and stigma from some simple lapse of memory, or some unintentional error in keeping their records, have openly refused to have anything to do with this class of patients. This is not right, to be sure, but let any one imagine himself placed under the circumstances described and see if he has it in his heart to blame a doctor for thus protecting the accumulations and reputation developed by a life of rectitude and hard work. We know a medical man in a nearby town, one of the cleanest, finest and most honorable men we have ever met, who, thru unfamiliarity with the law, committed a certain breach which, if it ever comes to trial, may or may not be held to be a real violation. Certainly there was no wilful or criminal intent to do wrong. But his act became known thru an inspection of his records—he never tried to hide or cover up his mistake—and he was arrested. The retaining of lawyers, the arranging for bail, and the effect on his practice have taken practically every dollar of his savings. He has had to mortgage his home, his income has decreased greatly—temporarily at least—and if it were not for his courage and strength of character he would have been ruined. His violation of the law was evidently not grave enough to bring him to early trial, for altho several months have passed since he was admitted to bail, he has not yet been indicted or brought into court. To tell the truth, he is not sure of just what he is accused, nor how far he has transcended the law. His colleagues know what he has been thru and realize how innocent he is of any wilful or vicious wrong doing. Is it any wonder that his medical associates are so chary about having anything to do with narcotic drug addiction?

Laws and Official Attempts to Mitigate the Evils of Narcotic Drug Addiction.—

The development of certain conditions as a result of the more stringent enforcement of the Harrison Law has been responsible for the enactment of many state laws. It has been realized for some time that the best and most certain means of driving the illicit peddler out of business is to treat the af-

flicted with sympathetic consideration, secure their confidence, and give the addict a chance to get the drug he needs at as near cost as possible. In this way underground traffic will be killed by competition, which robs it of the one attractive feature—enormous profits.

In carrying out these plans, different states have pursued different lines of action, but all have approached the problem with earnestness and a sincere desire to solve it as humanely and effectively as possible. Naturally, many mistakes have been made, and some of the laws enacted have been more successful than others. But on the whole, substantial progress has been made and the type of men, both in private practice and in official positions, who are giving thought to the problem, promise much for the immediate future. Dr. Swords' report in this issue of the work he is doing is inspiring. It is gratifying to learn of the broad and humane view that he and his associates have taken of narcotic drug addiction, and the success that has been achieved not only in relieving the misery and suffering of afflicted individuals, but in restoring them to a self-respecting citizenship and an economic independence that changes them from public burdens into social assets. Obviously the next step is to provide ways and means for effecting complete cures in those cases in which this is possible, *i. e.*, those who do not have physical infirmities that make such cures impossible. Dr. Swords will go on to greater successes, for he knows what is needed and is paving the way to the attainment of the results he seeks. In the meantime the good that Dr. Swords is accomplishing is immeasurable—and the New Orleans Dispensary offers an excellent example to health authorities in other states who are forced to cope with the problem of drug addiction.

In New York a good deal of attention has been given to the matter, for probably in no other state in the Union have the evils associated with drug addiction been so extensive and widespread. Various laws have been passed and while it has seemed that undue restrictions have been placed on the medical profession, this was only to be expected from the way that certain unscrupulous doctors have sought to enrich themselves by taking advantage of the necessity of drug addicts. As is too often

the case the innocent have had to suffer for the acts of the guilty. The great bulk of the profession, made up of honest medical men, has been forced to undergo much inconvenience, humiliation and considerable danger because of the deeds of a few dishonest practitioners. It has been unpleasant but there has been but one course to follow, and we believe that those who know the real facts will heartily commend the profession for the earnest, faithful manner in which its members, with very rare exceptions, have complied with the narcotic laws and their regulations. Doubtless numerous mistakes have been made—doctors are notoriously careless in keeping records and accounts—but these have been innocent and unintentional. As long as there is no evidence of dishonest intent and a physician's good faith is plain, he ought to have nothing to fear. We believe that most of the authorities and officials charged with enforcement of the narcotic drug laws have no desire or intention of imposing any needless hardship on the doctor whose honesty and integrity are clear and plain. Occasionally, some official will abuse his power and impose an unwarranted burden on a physician whose only misdeed is a simple matter of carelessness or forgetfulness. Such officials are the exception, however, and the great majority are kind, well-intentioned individuals who seek to do their duty with reasonable consideration and regard for the rights and motives of their fellow-men. Every medical man should bear in mind in regard to his relations with both national and state narcotic drug laws, that there is "no surer shield nor safer armor" than the knowledge of his own honest purpose and intention. In other words, a physician has little to fear in the last analysis who fulfils the regulations of the laws as closely as he can, and keeps good faith with his patients, his country and himself.

The Registration of Drug Addicts.—

One feature of the regulations evolved under the New York State narcotic drug act that has been particularly criticized is that which has called for the registration and recording of all drug addicts. In behalf of those who imposed these regulations it may be said that after due thought and study, some registration system for those addicted

to narcotic drugs has seemed to be the only means whereby some of the most serious abuses could be controlled and overcome. In New York City the need for such methods has been greatest owing to the large proportion of a certain class of addicts that it has been necessary to cope with. In other words, aside from the general problem as it concerns honest addicts, the situation has been complicated by the large number who have belonged to the underworld. It was known that many of these, irrespective of any conditions that might be laid to their drug addiction, were sure to resort to all manner of dishonest subterfuges and nefarious acts to beat the rules and regulations, and acquire excessive amounts of drugs.

A good many thoughtful people have felt that registering, photographing and fingerprinting every drug addict as a routine procedure would either defeat the fundamental purpose of the movement or cause a great deal of humiliation and mental anguish to the addicts who feared publicity. How far responsible the enforcement of these measures has been in deterring self-respecting and self-supporting addicts from seeking assistance and appropriate treatment at the dispensary on Worth Street or from honest physicians, no one can say. That it has had a more or less unfortunate influence, however, can hardly be doubted. The dangers of publicity to the self-supporting addict can readily be seen, while the remote but none the less possible menace of some crooked individual getting hold of the records and using them for blackmail, is likewise apparent.

But we are frank to say that we cannot offer any better plan to supersede the foregoing, in view of the special social conditions in New York City and the character of the individuals who have made up so considerable a proportion of the total number of those addicted to drugs. Dr. Copeland has undoubtedly tried to enforce these regulations as tactfully and with as little publicity as possible. In the face of a difficult situation and required to meet administrative problems that had never been met before, the faithful and energetic way in which Dr. Copeland has forced the community to realize the importance and gravity of the narcotic drug problem, and neglected no opportunity of showing the people that drug

addiction is a definite disease, that those afflicted with it are sick people and require as intelligent and painstaking medical care and treatment as those suffering from any other serious ailment, cannot fail to receive the hearty commendation of every fair-minded person. Dr. Copeland has doubtless made some mistakes. Probably he would be the first to admit that he has. But as that great Vermonter, E. J. Phelps, who was once an Ambassador to England used to say, "The man who never made a mistake, never made anything."

Drug Addiction in New York.—On April 8, 1919, six physicians and four druggists were arrested for illegal traffic in narcotic drugs, and with these arrests it was realized that the evils of the narcotic drug problem was growing to serious proportions in New York City. On April 10th, only two days later, the Health Department of New York City had opened a clinic for the treatment of drug addicts. A record of these two dates and the brief interval between the official recognition of the situation and the prompt and earnest efforts of Dr. Copeland to meet it is one that is highly creditable. It bespeaks an energy and a directness of purpose which has characterized all the efforts of the city's present health director, and it is an achievement which deserves especial commendation because he had to overcome obstacles and stubborn opposition that would have discouraged most men. The obstinacy of officials without any knowledge of the situation or desire to acquire it was further complicated by an unwillingness to provide funds, and what has been done to meet the grave situation has been done with a minimum of expenditure. Regarded in this light, the work of Dr. Copeland, a review of which we are much gratified to print in this issue, has been exceptionally successful. Even discounting the opposition and indifference he encountered, the results he has achieved are important and far-reaching, for we must bear in mind the limits which Dr. Copeland has been obliged to set himself. Only those who disregard these limits can accuse him of failure. In establishing clinics for the treatment of the drug addicts who had been deprived of their illegitimate or underground sources of supply, it was not planned to effect an immediate or complete cure. Anyone at all familiar

with the situation must realize that depriving the thousands of addicts in New York City of their supply of drugs meant untold suffering and misery. Immediate action was necessary, and it was forthcoming. The calamity that was prevented by the prompt course which Dr. Copeland initiated can only be imagined by those who know what a drug addict must go thru when denied the particular drug to which he is accustomed. No humane person can fail to be appalled who stops to think of several thousand such men and women (very young men and women for the most part, as Dr. Copeland's article indicates) being forced to undergo the physical agony and mental stress that sudden deprivation of their drug essentially entailed.

Such a disaster was avoided. As for the actual cures effected, Dr. Copeland is modest in his claims. The scope of his office, and the funds available, were much too limited (they were almost totally lacking) to permit the careful and prolonged procedure necessary to bring complete cures. What the clinics have done is to effect a gradual reduction in the use of the amount of drug consumed daily, with the ultimate object of complete elimination. Above all, the object was to help the addict take himself in hand, bring himself within the confines of moderation, and encourage him to take steps to rid himself of his habit. In this respect, the efforts of the Department of Health have been far more successful than was anticipated by those who knew the handicaps to be overcome. Thousands of patients have come for daily treatment and a great number of these have been helped. But, as Dr. Copeland points out, the facilities of the department are not adequate to make cures that are either certain or permanent. If, after helping a patient to reduce his daily allowance to the minimum, it were possible to submit him to intelligent and careful treatment at a hospital or in some favorable environment where he would be under the constant guidance of specialists, for a sufficient length of time to restore his metabolism to the normal, total cures would be conceivable. If such cures have not taken place in larger numbers, the officials who have balked Dr. Copeland and hindered him throughout his course are to blame. He has made a brave uphill fight against odds, and his achievement, to

say the least, has been a notable one in the face of discouraging obstacles.

The Need for Education.—From a consideration of all phases of the narcotic drug problem, it is apparent that in spite of all that has been accomplished and the very real progress that has been made, the paramount need of the hour is for education, and this not alone of the people, but also of a large portion of the medical profession. The laity needs to be taught that drug addiction like the majority of human ills is an accident; that in most instances it has developed without the patient's knowledge of its nature or dangers; that it is a real disease with as definite a physical basis as any other human ailment; that it is not an evidence of mental degeneration or criminal tendencies; that it is not attended by pleasure or enjoyment, but on the contrary, almost always causes those afflicted untold suffering, misery and distress; that it is very rare to find a person addicted to narcotic drugs who would not go to any lengths to be sure of getting cured of his disease; that those afflicted deserve sympathy and pity, and not hasty criticism, condemnation and intolerance; and finally that there are many fine, highly intelligent and proud men and women—capable, hard-working individuals—who are living honorable, useful lives, but who, thru accident or by reason of some painful physical disease, have become confirmed users of narcotic drugs. Of course, there are many weak, more or less ignoble and defective people who become addicts. But it should be remembered that in many of these individuals their drug addiction is more often incidental than causal. Every community has its quota of spineless, incapable and depraved individuals who may or may not become afflicted with drug addiction, depending on their environal conditions. By the same token, these people may or may not become tuberculous. It should be borne in mind, therefore, that when this disease of drug addiction does occur, it does not necessarily exist as either a cause or as a consequence of their mentality or general character. Nevertheless, like every other serious disease, it is a grave misfortune and the afflicted individual deserves our most sympathetic thought and attention.

The medical profession also needs education, not infrequently along the same lines required by the laity, for so many doctors have kept sedulously aloof from the problem of drug addiction that they know little of the views developed during the past few years. Especially do medical men need to study the nature of addiction disease and how to combat the pathologic conditions created in the addict's body. For nearly a decade there has been one doctor who has recognized the enormous importance of the narcotic drug problem from medical, social and economic standpoints. Like "a voice crying in the wilderness" he has preached the truth, striving to arouse the public, as well as his professional colleagues, to the significance of drug addiction as a physical disease. Confronted by indifference, long established opinions, various antagonisms and unwarranted suspicions as to his aims and motives, it has probably been a disheartening task. We can imagine that time after time he has wondered if his earnest efforts to get the people to realize the truth were really worth while. But still he has gone on, supported by the knowledge that he was right, and that if he could awaken the public to the real situation he would be helping to an immeasurable degree, an afflicted, suffering and sadly misunderstood class. At last, this physician has been able to see a vast change in the viewpoint of the people and a general acceptance of the fact that drug addiction is a definite physical disease, characterized by pathologic processes as real as those associated with any other bodily ill. He has seen the drug addict looked on with compassion and sympathy instead of contumely and disgust, and has witnessed the passage of laws designed to aid, uplift and save drug addicts rather than to penalize and make them creatures of distrust and ruthless condemnation. The part he has played in this gradual enlightening of the people and the profession is evident to all who know this physician and the work he has been doing. We refer to Dr. E. S. Bishop, whose new book, "The Narcotic Drug Problem" (The Macmillan Co., 1920), is one of the most notable contributions to the subject that has thus far been published. As a pioneer in the study of narcotic drug addiction, Dr. Bishop is qualified by knowledge and experience as are few other men in this coun-

try or Europe, to point out the true facts in regard to this affliction which has grown to such serious proportions in all civilized countries, our own in particular. Big of heart and with a sympathetic personality, Dr. Bishop has recognized the sufferings, sorrow and distress of drug addicts as almost no one else has. His book, as a consequence, is an earnest plea for a better realization of what a drug addict undergoes, a more accurate conception of his real condition and a more intelligent comprehension of what he needs from legal, medical and sociologic viewpoints. No one can read the portion of his book devoted to a consideration of what drug addiction is, and how it should be treated, without being impressed with the wealth of hope he offers to the average addict. If drug addiction is a well-defined clinical problem, as Dr. Bishop seems to have demonstrated conclusively, it is only a step to the determination of effective measures for its complete and permanent cure. Dr. Bishop holds no brief for any special treatment, remedy or method of cure. Therefore, one of the most inspiring features of his book is his statement that the cure of drug addiction is possible in the great majority of cases thru an intelligent use of the therapeutic and hygienic measures at present at our command. Thus he says:

"There is no one procedure applicable to all cases of any condition in medicine and surgery. In narcotic addiction-disease, as in all other conditions of medicine and surgery, the man who will have the best results is the man who is possessed of the widest and most varied experience combined with intelligent observation, technical skill and clinical judgment in the selection of procedure best adapted to the needs of the individual case. Familiarity and experience with different methods and procedures reveal in each and nearly all of them some advantages and some defects. The wise man and the man whose results will most approach uniform success is he who can make intelligent selection and use of whatever is most applicable to the needs of the case he treats, either out of his own experience and discoveries, or out of his familiarity with the work of others.

"In a majority of cases by experienced choice of clinical procedure, combined with judgment and technical skill, the arrest of addiction-mechanism and the restoration of the narcotic addict to health and freedom from both opiate need and thought of opiate drug is a matter of assured accomplishment."

Dr. Bishop's book is bound to do an infinite amount of good. No one can read

it, be he intelligent layman or educated physician, without getting a broader, more comprehensive grasp of the whole subject of narcotic drug disease. How essential this is for every intelligent citizen, but especially those who may have any relation to the enactment or administration of narcotic laws or the care and treatment of drug addicts, must be apparent. As a general summing up of this whole issue of AMERICAN MEDICINE, and as the one great message we would convey to our readers, we cannot do better than quote the following words with which Dr. Bishop draws his admirable book to a close.

"Education is the great need of the hour. Until it is accomplished all else will fail. Until we all know what we are dealing with, how can we hope to successfully handle it? It is to be hoped that the time is not far distant when in every medical school and hospital will be taught in principle and practice, in classroom and clinic all that is known or will be known of the pathology, symptomatology, physical phenomena and rational therapeutics of narcotic addiction-disease. It is to be hoped that in school and college, in pulpit and press, the facts of addiction will be presented in their practical existence, stripped of spectacularity; a calm, cold presentation of basic facts. There is no subject upon which philanthropy can better expend its forces than to this end of education as to addiction-disease and humane help to its sufferer.

"In the past the problem of control of addiction has been 'What shall be done *with* or what shall be done *to* the narcotic addict to make him stop using drugs?' It is now gradually coming to be realized that the true problem is 'What can be done for the narcotic addict to relieve him of the physical necessity of using drugs?' and 'What can be done to so educate the public as to the facts of addiction, so that this disease will claim as few victims as possible?'

"In this change of attitude lies the hope for the future. Some of the narcotic addicts will have to be done *with* or done *to*. They are the inherently irresponsible, vicious or defective. They demand care and restraint irrespective of their addiction. The mass of addicts, however, needs something done *for* them. They are clinical problems of internal medicine, victims of a definite disease, characteristic in its symptomatology, reactions and phenomena, a disease which will before long come to be known as clinically and therapeutically controllable and arrestable."

A Word of Praise.—While discussing Dr. Copeland's excellent work in connection with the drug problem, it would be

appropriate to extend our congratulations to the health director of New York City on the showing this city has made for the year 1919. According to a report issued by the Health Department the year that has just closed was the banner health year of the fifty-three years in which the department has been in existence, the death rate reaching the lowest point yet recorded. The actual figures of the death rate for 1919 were 12.39 per thousand of population, as compared with the rate of 16.71 in 1918 and 13.94 for the five-year period from 1913 to 1917. The total deaths in 1919 were 74,433, as against 98,119 during the year 1918, and an average of 83,760 for the five years from 1913 to 1917. A marked decrease in mortality as well as prevalence of typhoid fever, typhus fever, smallpox, measles, scarlet fever, diphtheria and whooping cough is shown. Particularly significant is the unprecedented drop in the tuberculosis figures. And the death rate among children under a year, always a vital factor, reached the low figure of 82 per thousand of children born. This establishes a low record for the city. The year 1919 was a memorable one for New York City.

Prohibition and Its Consequences.—

With the beginning of the new year and the rigid enforcement of absolute prohibition, speculation as to what 1920 will bring in the way of an accentuation of the drug evil and an increase in crime is proving tempting to many. The dry forces, having achieved their aim, are silent. But the "wets" (and they are considerable in number and quite vocal) already have evidence of the deterioration of the nation that has suddenly become an arid desert. A recent report from Chicago purports to show a considerable increase in crime. This report was issued to contradict the assertion that the "Windy City" has improved under prohibition and gives figures to show that there were less infractions of the law of a serious nature when the saloons were in full swing than now. This increase was placed at from fifty to fifty-eight per cent, and a point is made of the fact that the chief of police has issued a call for 2,000 more men

to assure "adequate protection." Another statement, this time bearing the frank stamp of the "wet" organizations, unequivocally asserts that the inauguration of the new régime has been attended by a startling increase in crime and lawlessness all over the United States. "Prohibition," states this report, "is breeding a dangerous contempt for the law in every state and is yielding a ghastly harvest of crime and disease, while the 'bootlegger' has within the last six months developed the status of a national institution. Investigations reveal that the drinkers are now not only drinkers, but lawbreakers as well. Unable to obtain liquor of the usual standards, they are now drinking moonshine whiskey, various wood alcohol mixtures, with their menace of almost immediate blindness, hair tonics, liniments, patent medicines and everything that holds the percentage of alcohol that has the 'kick.' The number of drug addicts has increased alarmingly." The report presents figures substantiating its claim that, from Oklahoma to New England, crime is rampant.

Unquestionably (and regrettably) some of these claims are well founded, but many of them are specious and exaggerated. Before prohibition went into effect, AMERICAN MEDICINE repeatedly pointed out the dangers attendant upon such a course, and little has occurred since then to allay our fears. But, abrupt as the change was from free access to spirits to complete prohibition, the effects cannot be so early apparent. They are slow and cumulative in their process of development and if, by the end of the year, one can definitely point out specific and direct instances of the evil effects of prohibition, things will have moved swiftly enough. It is undeniable that the figures of increased arrests are true and accurate, but these figures cover the last six months and are given out by states in which there have been raids and arrests of persons engaged in political agitation in which the liquor problem does not enter at all. No doubt these arrests, which have mounted into the thousands thruout the country will in a measure explain the increase in the police figures. But the charges that drug addiction has increased are necessarily couched in vague and general language

which is open to challenge. It is much too early for evidence in this respect.

Wood Alcohol and Dangerous Concoctions.—But the pessimism of the “wets” is amply fortified in its contention that the quest for spirits has led to the consumption of substitutes and harmful concoctions which constitute a real menace to public health. It was repeatedly urged in these columns that men and women accustomed to their daily quota of liquor would, if cut off too suddenly from their sources, resort to desperate measures. It was suggested that a more gradual measure be considered or some definite substitute offered. But the sponsors of the revolutionary amendment considered their work ended with the victory of their viewpoint, and their lack of vision brought dire consequences almost at once. The country woke up one morning to learn, to its utter amazement and dismay, that a huge quantity of wood alcohol had been loosed upon the public under the guise of harmless liquor, and presently reports came in from numerous communities of scores of persons dying or being stricken blind. The public was horrified, and it is to the credit of the authorities that they promptly hunted down the guilty ones. But mischief such as this was not difficult to foresee, and the real culpability lies with those who made no provision to prepare for such a contingency. But the first shock of this reprehensible crime and outrage will pass and men will once more seek the forbidden liquid, and once more the temptation will arise among greedy individuals to profit by this opportunity. In a small way, they have already resumed their operations. A man boarded a train at Grand Central the other day with a bottle of what he considered excellent whiskey in his grip. Unwilling to wait until he got home, he frequently sampled the contents of the bottle. It was dear sampling, however, for he was blind by the time he reached Albany. The bottle bore the name and imprint of a dependable maker and was equipped with a non-refill top. But it appears that a hole had been bored in the bottom, the contents removed, a decoction of wood alcohol substituted, and the hole carefully plugged. This is but an individual instance and it will probably become commonplace soon.

Meanwhile men will continue to speculate with doubtful concoctions, will resort to patent medicines, or will experiment with their own amateur manufactures of something that can produce a “kick.” It is to be expected that from now on there will appear in the daily press frequent reports of such dangerous and even disastrous experiments. Human beings learn slowly, but in time they will probably realize that they are coquetting with death. What will be their choice then? The lure of liquor is not easily dissipated. They will still crave the stimulant to which they have become accustomed thru years of indulgence. And the temptation to resort to various substitutes will be enormous. That has been the course in all communities where prohibition was established in recent years, and now the problem will no longer be a local one, but a national one. It is safe to predict that the end of the year will see a distinct increase in violations of the law and the evils incidental to the situation. It is not only shortsighted, it is almost criminal, to shut one’s eyes to the possibilities. And it is incumbent upon those who were most insistent on the enforcement of prohibition to meet the inevitable dangers, intelligently and adequately. It is not yet too late for preventive measures, tho it is difficult to indicate the measures that might prove effective. That should have been the concern of the sponsors of the amendment at the time they agitated for it, and it should be no less their concern now that they have attained their aim. The smug satisfaction with which they have retired from the public eye now that the measure they strove for is in effect is hardly warranted by the situation with which the public is confronted. It is too much like rescuing something from a frying pan and dropping it onto a hot stove.

Lydston says, “America, of course, never learns any lesson. We can’t be convinced that the stove is hot until our own fingers are burned. But if America wants ‘martial law’ I suppose we must have it. I am curious to know how statistics, laws and regulations having their origin in army camps will work out in civil life.”



THE NARCOTIC DRUG EVIL AND THE NEW YORK CITY HEALTH DEPARTMENT.

BY

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Holy Writ tells us of the prophet Jeremiah's lifelong protest against the iniquity and folly of his countrymen. In his lamentations, he indulged in bitter foreboding of the hopeless ruin they were bringing down upon their heads. Without wife or child to care for, his one thought was his country, its moral and political good. Perhaps in all history no one more fully recognized that man is a creature of habit, and that bad habits lead to disaster and ruin. So Jeremiah wailed: "Can the Ethiopian change his skin, or the leopard his spots?"

In a sense, every citizen, especially the practitioner of medicine, is as committed to the hopelessness of the drug addict's fate as poor Jeremiah was convinced of the eternal helplessness of Israel. The purpose of this essay is well stated in the request of the Editor of *AMERICAN MEDICINE*: "The need of arousing physicians to the actual situation, and getting them to recognize the duty they owe to an unfortunate class, the community and to

themselves." If, as the Editor suggests, the information thus given "will go far, not only to show what can be done, but to arouse medical men to their personal obligation in the matter," I shall be happy. To restore the thousands of American addicts to normal life is an undertaking worth the effort of the entire profession. If accomplished, it will be regarded ever as one of the monumental achievements of medicine.

We live in an era devoted to the ideals, if not to the actual practice of preventive medicine. It is a shame to be obliged to devote money, time and effort to the cure of any one thing that can be prevented. Yet we continue to treat the victims of malaria, smallpox, tuberculosis, and a long list of other infections that may be prevented. There is a political and economic aspect to every such disease, and, somehow or other, in these matters the medical profession has failed to impress appropriating and governmental bodies with the supreme importance of adequate official action. Applied to drug-addiction disease, this means there would be no drug problem, were there ample governmental control. Without such governmental action, there will continue to be addiction, and, as a consequence, the profession must go forward in its treatment of this, as with every other preventable disease.

Drug addiction differs from the active

contagions in that no immunity¹ is afforded the cured. It is like tuberculosis, in that a predisposition, moral as well as physical, however, renders the once inoculated liable to "flare-ups" or fresh attacks. Caused as it is in ninety-five per cent. of cases, at least in the underworld, by evil association, its management is not encouraging to physician or to sociologist. Disregarding the underworld, and considering only the accidental addictions and those due to the necessary use of narcotics in painful disease or surgical condition now cured, there is no reason why there should not be a hundred per cent. of lasting cures. What may be said, then, regarding treatment, even tho its general principles are far from new, will be of interest to every practitioner.

Federal Law and Activity.—It will be recalled that the Federal Narcotic Law, commonly known as the Harrison Act, was primarily a revenue measure. While it included provisions for control of the moral and medical aspects of drug dispensing, there was considerable doubt as to the constitutionality of these features of the law. Not until the Supreme Court of the United States, in the case of *United States v. Doremus*, rendered its decision in March, 1919, were there any teeth in the law and any serious attempt on the part of the Treasury Department to enforce its medical provisions.

The activity of the Federal Government began in New York City April 8th, when six physicians and four druggists were placed under arrest for illegal traffic in

narcotic drugs. This was the beginning of a campaign, not yet ended, and which has resulted already in scores of arrests and in sending several doctors and druggists to the penitentiary.

The Narcotic Clinic.—Within a few hours after the closing of their ordinary sources of drug supply, hundreds of addicts were clamoring for treatment. The doctors who had been growing rich in this traffic were frightened, and the poor victims had no means of relief. On April 10th, the New York City Health Department opened a Clinic for the temporary care of these patients. This is still in operation and up to this time more than seven thousand persons have applied there for treatment.

The original intention in the establishment of this Clinic was to meet the urgent emergency of last April. It is now a clearing house, or admission bureau, preparing the way for the hospital treatment of the patient. Without absolute control of the patient and his complete isolation from clandestine sources of supply, there is no hope of cure. Ambulatory treatment is foreordained to failure so long as there are secret and illegal methods of obtaining the drug. Under present conditions, therefore, it is my belief it will be a very rare instance indeed when a patient is cured outside a hospital, or in the absence of equally well controlled conditions within a private house. So far-reaching is the influence of this evil that no trust can be placed in persons not absolutely proof against cajolery and bribery, or in any surroundings not impregnable against assault. The cunning and ingenuity of the evil genius presiding over this practice are almost beyond belief.

The Clinic has served a humanitarian purpose in that it has provided a place for

¹ Much has been written regarding immunization and the development of anti-toxins or anti-bodies. The original experimenter and writer in this field—one from whom all recent writers have borrowed freely—is Dr. C. G. Gifford. See his article: "Recherches Ulterieures Sur L'Immunization Pour La Morphine" in the *Arch. Ital. De Biologie*. 1899.

a careful physical examination, advice as to needed medical treatment for fundamental conditions, and careful oversight of the progress of the drug disease. It has saved the addict from the victimizing methods of the doctor who heretofore has exploited the drug patients by charging excessive fees for bogus "treatment", and of the druggist who has wickedly profited on the drug and not infrequently given short weight besides. Attendance at the Clinic has given the Health Department time and opportunity for study of the home surroundings, personal characteristics, and reliability of the patients.

The gradual but consistent reduction of the daily dosage at the Clinic has shortened the period of the necessary hospital treatment. Likewise, it has increased the value of residence in hospital by sending patients in much better physical condition to begin with than would otherwise be the case. The Clinic has given us a hold on hundreds of addicts who, without it, would be lost to the municipal authorities, and, lastly it has made possible a steady flow of patients to the hospital, thus justifying its necessarily large personnel, and in every way facilitating the problems of hospital administration.

Statistical Study.—Some idea of the magnitude and nature of the problem may be gained from the few statistics presented here. The following is an analysis of the first three thousand, or approximately three thousand, admissions to the Narcotic Clinic:

1. *General Classifications:*

Male	2,647
Female	615

3,262

2. *Racial Groups:*

White	2,802
Black	460

3,262

3. *Stated Causes of the Addiction:*

Illness	429
Association	2,482
Other Causes (curiosity, pleasure, trouble, etc.)	351

3,262

4. *Favorite Drug or Drugs:*

Cocaine	6
Heroin and Morphine	41
Morphine and Cocaine	42
Heroin and Cocaine	305
Morphine	690
Heroin	2,178

3,262

5. *Age Groups:*

15-19	908
20-25	927
26-30	711
31-40	583
41 or over	133

3,262

6. *Duration of Addiction:*

Less than 1 year	211
2-5	1,166
5-10	1,496
10-15	90
Over 15 years	299

3,262

7. *Nationality:*

Austria	4
Canada	60
China	39
Denmark	1
England	13
France	1
Germany	401
Greece	95
Holland	2
Ireland	212
Italy	78
Japan	11
Poland	312
Roumania	1
Russia	125
Scotland	4
South America	4
Spain	28
Switzerland	7
West Indies	9
United States	1,855

3,262

8. *Occupation:*

Skilled (trade or profession) . . .	1,982
Unskilled	1,280
	<hr/>
	3,262

To my mind, the most startling thing about these figures is that a large majority of the patients are under twenty-five years of age, and nearly one-third of them are not out of their teens. Our patients are just misguided and unfortunate boys and girls, mere children. That more persons past forty do not appear means that the addict dies young, the ready victims of tuberculosis or some acute infection, or else the drug traffic on the present scale is so recent that only the young are as yet affected. It is disturbing to find hundreds who are employed as chauffeurs, drivers, conductors, elevator operators, and otherwise engaged in occupations where human safety depends on perfect sobriety; above twenty per cent. of admissions are in these occupations. Physicians, nurses and ministers are numbered among the victims. There is hardly a calling or occupation without representation. Apparently the evil is so widespread that it reaches every stratum of society and every nationality. It appears by preference to attack the American, because the great preponderance of patients is among the native born.

It will be understood from what has been said so far, that the Narcotic Clinic, important as it is in corralling the patients, in gaining their confidence, and classifying and clearing them for the hospital, has no very important part to play in the real treatment. In a small community, and in this large city under normal conditions, the Clinic would have no part in the scheme of things. Even under the demands of the strenuous opening campaign of this war against the drug evil, its usefulness will end

soon. So soon as we can hospitalize our remaining patients, the use of the Clinic will be merely that of an admission bureau. Personally, I am thoroly convinced that every addict must take the major portion of his cure in the hospital, and when the number of applications for treatment do not exceed the number of empty beds, commitments will be made directly to the hospital. In that event, of course, more time will be required in the hospital, but, in the end, it will be a far more satisfactory procedure.

Hospital Care.—We come now to a consideration of the important feature of our program, the hospital care of the addict. It may be recalled that the Commissioner of Health had great difficulty in finding a hospital for these unfortunates. Public opinion had to be moulded and official consent gained, but finally Riverside Hospital, on North Brother Island, was set aside by the city for the admission and treatment of these patients. We have there seven hundred beds and up to this writing sixteen hundred patients have been admitted. If I had ever doubted the wisdom and propriety of this method of caring for the addicts, all doubts would have disappeared after my last visit there, two or three weeks ago. I happened to arrive at the dinner hour and saw at the tables two hundred husky, red-cheeked, bright-eyed and clear-brained young men who, a month before, were wrecks of humanity, skulking about the streets of New York, seeking narcotics at any cost, even by the commission of crime.

Treatment.—In the treatment of these cases at the hospital there are three stages: *First*, the stage of preparation; *second*, the stage of elimination and withdrawal of the drug; and *third*, the stage of convalescence and rehabilitation. The first stage covers

a period of about three days. It is the aim of the physician in this stage to determine the gastrointestinal state of the patient and to fix the proper dose of the drug. It has been shown rather conclusively that one grain three times a day is the maximum dose covering the body needs. Of course many patients come in who are suffering from drug intoxication. They have been taking far in excess of the dose required and are in what might be called a state of perpetual "jag." As a matter of fact, however, it is the testimony of our physicians that three grains a day will keep the most inveterate addict perfectly comfortable.

On the fourth day the patient begins his process of elimination. During this time he is given an eliminating capsule consisting of rhubarb, ipecac, strychnine, atropine and two grains of calomel. The first capsule is given at three o'clock, the second at six and the third at nine, and on this day the patient receives three one-grain doses of the narcotic drug. On the fifth day there is active purging, as can be imagined, and the patient is left alone, except that he is given three doses of his drug in reduced amount, perhaps three-quarters of a grain three times a day. On the sixth day the same treatment is given as on the fourth, that is, three of the eliminating capsules are given. If there is no great response, a high colon enema of saline solution is used. On the seventh day, at six o'clock in the morning, the patient is given two ounces of castor oil. The administration of the oil is followed immediately by the last dose of the drug the patient is to receive.

In three or four hours the patient becomes restless and usually about eleven o'clock receives his first dose of hyoscine. The official dose of hyoscine is $\frac{1}{300}$ to $\frac{1}{50}$ of a grain, and it will be gratifying to know

that the entire hyoscine treatment, about which so much has been said, rarely requires a larger amount of the drug than is contained in three or four maximum doses. The first dose is the largest dose that we administer and this, for a man, is $\frac{1}{200}$ of a grain and for a woman, $\frac{1}{250}$ of a grain. The drug is repeated according to the needs and condition of the patient, exactly in the way a skilful anesthetist supplies the ether where anesthesia is desired. The second dose may be an hour or an hour and a half, or even three hours after the first dose, and succeeding doses are given covering a period of thirty-six hours. During this time, ten to fifteen doses may be given. By the end of thirty-six hours the patient is usually sleeping. Perhaps it may not be necessary to give a dose of hyoscine after the first twenty-four hours.

In possibly one case out of a dozen, some bad condition may develop. There may be abnormal heart action, the pulse becoming low and irregular. There may be dry fauces and tongue or suppression of urine. There may be persistent nausea. In one case in a hundred, during the first twelve or eighteen hours of treatment, there may be convulsions. A single quarter-grain dose of morphine will give immediate relief. Since the opening of the narcotic service there have been but two deaths on the Island. Considering the debilitated and sickly groups we have admitted, this seems to me quite a remarkable record. Both these patients had tuberculosis with complicating pericarditis.

During the thirty-six hours in the hyoscine ward the patient is given all the cold water and vichy, or soda water, that he cares to take. There is such marked acidosis that much relief is experienced by the use of alkaline water. No food is given,

but the patient may have all the liquid he calls for.

Sometimes the patient has a feeling of great weakness, prostration, with cramps in the legs, and these symptoms will disappear ordinarily with another dose of hyoscine, $\frac{1}{200}$ or $\frac{1}{250}$ of a grain. For the after-pains and cramps in the legs, our physicians have found a powder, consisting of one grain of sparteine sulphate, $\frac{1}{30}$ of a grain of apomorphia and $\frac{1}{250}$ of a grain of hyoscine, will make the patient entirely comfortable. One dose within the first thirty-six hours after the completion of the treatment will suffice usually to relieve cramps and pain.

For the nervousness experienced, bromides and trional for the women, and chloral for the men, are used in exceptional cases. In alcoholic addiction complicating, paraldehyde has been found useful in doses of one to two drams. This is used for a night or two after the treatment. Usually a two-dram dose is given on the first night and a one-dram dose for two nights following.

I have visited the wards and have been able to converse with every patient. There is no active delirium. Occasionally a patient picks at the bed-clothes. He may say the chandelier looks like the "old boy," but not more than one patient in fifteen has to be restrained. During this treatment we have one nurse to every two patients, but most of the time they are not actively engaged except in keeping the patients covered with bed-clothes.

The first twenty-four hours the patient is in the hospital, he may be somewhat miserable. He comes in intoxicated with the drug and when he is dropped off from 30 grains to the normal amount, he complains for a few hours. But from this time for-

ward, he is exceedingly comfortable.

We find that most of the addicts are excessive cigarette smokers. One of the first things we undertake is to reduce the number of cigarettes to four or five in twenty-four hours. These patients make more fuss over the deprivation of tobacco than over all the remaining features of the treatment.

During the last stage our patients are employed about the Island. They have been rebuilding the roads, leveling the grounds, painting the buildings, repairing the boats, operating the laundry and doing a thousand and one things that make for their physical restoration and rehabilitation.

The Ultimate Result.—The patients are now being discharged from day to day and are being returned to the community sound in body, if not regenerated in mind and soul. Society has a very important problem to meet in the reception and placing of these deserving persons. The Department of Health, with the cooperation of various religious and social organizations, is attempting to aid in this process of regeneration.

I am laboring under no delusions as to the ultimate fate of many of our discharged patients. There can be no doubt that a large number of them will return to the drug. The first time sickness comes, or social disaster, there will be recourse to the narcotic. Until this community and every other is freed from the possibility of obtaining the drug clandestinely, we will have addicts to deal with. It is imperative that there shall be worked out some system of international control of crude opium. It is my opinion that in every country there must come ultimately centralization of narcotic distribution in some governmental agency. So long as it is possible for American manufacturers to prepare the deriva-

tives of opium, ship them to near-by foreign countries and have them smuggled back across our borders, the drug evil will persist. So long as the bootlegger is permitted to operate, so long will there be addiction. Certainly it is incumbent upon the Federal Government, upon the officials of other governments, upon the League of Nations, upon every official body that can be considered in this connection, to move forward toward the realization of some plan for the control of the narcotic evil. There must be intense activity and alertness, otherwise all the efforts of health departments will fail. It is possible to cure a patient of malaria, but if he return to a district abounding in infected mosquitoes, he will have another attack of malaria. The physician and the Department of Health can heal these poor victims and restore them to physical health, but without moral regeneration or such strict governmental control as to prohibit the possibility of illicit possession of narcotics, the problem will not be solved.

A RESUME OF FACTS AND DEDUCTIONS OBTAINED BY THE OPERATION OF A NARCOTIC DISPENSARY.

BY

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Narcotic laws in vogue being apparently defective in controlling the drug traffic and narcotic addiction, the State of Louisiana recently enacted a new State Narcotic Law, directed towards the better control and regulation of said drug traffic, particularly

thru its principal offenders, the "trafficker," "vendor," "morphine doctor" and "dope apothecary." This legislation created a drug "panic" in addict circles, causing drug "vendors" to cease their activities temporarily, by cutting off the main source of drug supplies. In desperation, addicts applied to the Louisiana State Board of Health for relief, the only place where they could have reasonable assurance of assistance.

It was apparent, after reflection, that in the passage of this antinarcotic law, the addict, the principal one affected, had been overlooked. His unfortunate plight had not been sufficiently considered, and the possible results of the law not intelligently comprehended. The Louisiana State Board of Health came to the conclusion that addicted humans were deserving of consideration and care, as well as those unfortunates afflicted with other diseases, and a remedy was sought to meet the occasion.

Neither the State nor Board was financially able to care, even temporarily, for these sick people. It was expedient that immediate means must be had by which a grave condition could be met. It was decided, therefore, to supply addicts with their drug at cost price, plus a sufficient margin to meet expenses incidental to the operation of the dispensary.

It was found that opium (and its derivatives) was the one drug of physiologic necessity insofar as addiction is concerned. Consequently, it was decided that morphine, the principal opium derivative, should be the only drug dispensed.

The Narcotic Dispensary having been established, other questions presented themselves, the most important of which was "Why so many addicts?" and "Whence the enormous supply of drugs?" It was found that the main supply was thru "drug traf-

fickers," made up of irresponsible "vendors," "unscrupulous apothecaries" and "morphine doctors." Knowing the supply, the natural question was "How to combat it?" Laws being ineffective, it was determined that some rational means be established to strike at the heart of this nefarious evil.

Legitimate supply seemed to be the most logical plan that presented itself. To meet the illegitimate vendor and prescriber of

them being forced to seek more profitable sources of revenue.

Cause and effect, profit and supply are the basic principles that must be met in the solution of the drug problem.

What is the cause? The medical and allied professions, environment of the "tenderloin," and association are the principal causes.

What is the effect? The addiction of people to a drug, opium, or its derivatives,

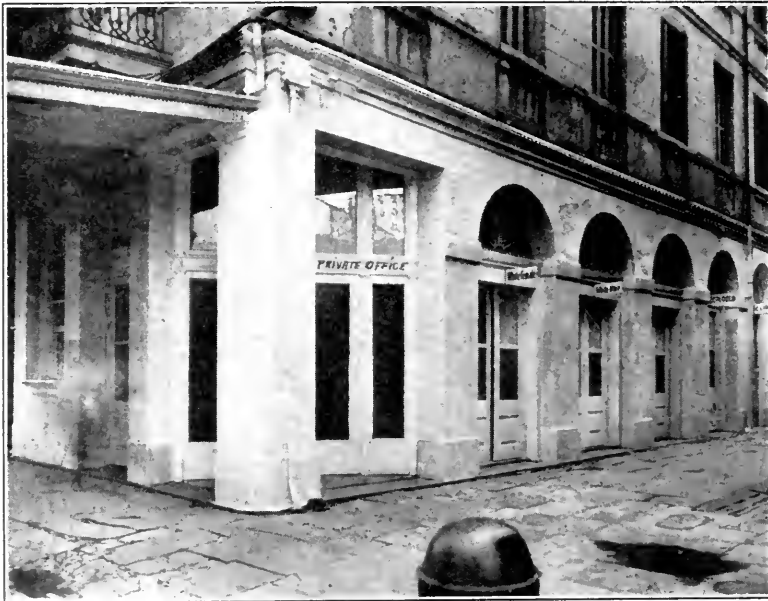


FIG. 1. Entrance to Dispensary.

drugs on a common ground, the Narcotic Dispensary supplied addicts in a legitimate way at a price so low that the vendor would not take chances of falling into the hands of the law for the small profits brought about by this new form of competition. The effect of this *modus operandi* was apparent. The vendors of drugs utilized their wits unsuccessfully in attempting to combat a practical demonstration of legitimate supply, with the result that their activities became noticeably less, many of

causing what heretofore has been known as a "habit," but what in reality is a physiologic changing of the proper functioning of every organ and tissue, creating the pathologic mechanism of a definite "disease," characteristic in its symptomatology and pathology and which cannot be combated except by scientifically adapted measures. Drug addiction, as applied to opium, and its derivatives, is a disease and *not* a human frailty, and must be recognized as such before any rational solution of the

problem can be understood and any treatment successfully directed towards its cure and eradication.

What is the supply? Doctors, hospitals and the underworld, thru illegitimate vendors.

What actuates this practice? Millions of dollars each year spent by men and women which go into the coffers of the "man higher up," who directs the business

must meet it or go out of business. Legitimate supply is the basic principle on which this Narcotic Dispensary is combating the drug evil. It will take time and education to effect perfect results. Necessarily there are other scientific problems for solution. The first is to extricate the poorer addict from his unwholesome surroundings. This we have attempted to do by establishing a dispensary that in appearance and re-



FIG. 2. Business Offices of Dispensary.

and is the real recipient of this enormous profit.

How to combat it? By furnishing a legitimate supply. Addicts are not necessary, but are with us; their addiction-disease is a part of themselves, a condition eternally demanding relief. A legitimate source of supply should be provided at a price so low that the illegitimate vendors

spectability inspires dignity and confidence.

In our Dispensary, as the photographs will show (see Fig. 1.), there are five separate entrances, designated as "Private Office," "White Female," "White Male," "Colored" and "Clinic," each separated from others by partitions. You will also note (see Fig. 2.) the business-like appearance of the offices. The three

booths, viewed from "Private Office" are shown also in the photograph (see Fig. 3.) The private office (see Fig. 4.) is so arranged that it can be curtained off for additional privacy. The Dispensary is thoroly equipped and well lighted. We have a well-equipped laboratory.

Our Medical Clinic (see Fig. 5.) is equipped for determining any physical disability or illness of its clientele. This clinic has in attendance two doctors

highest type of medicine.

OBJECTS OF THE DISPENSARY.

1. We realize that a permanent cure of those afflicted with drug addiction-disease is impossible, in the great majority of cases, unless the addict be placed in a position to secure scientific treatment. The sole object of this dispensary is to relieve suffering until such time as a scientific treatment may be had.

2. The basis of operation is legitimate supply *versus* illegitimate trafficking.



FIG. 3. Entrance Booths for Whites and Colored Viewed from Private Office.

and a trained nurse. Histories are taken and filed, covering past and present condition of patients, together with statements of physical irregularities. Each addict is examined to establish primarily whether he or she is an addict, the cause of addiction and every other detail pertinent to the physical and mental condition. In our Dispensary we endeavor to practice the

3. To prevent a victimized people from being more thoroly victimized by heartless, profiteering "ghouls." To prevent the making of new addicts.

4. Diminishing petty thievery which constitutes a tax, or burden, on society, for the reason that many addicts, unable to pay the price of \$1.00 to \$3.00 per grain, are forced to criminal methods.

In the operation of this Dispensary, we have refrained from "registration" of ad-

dicts, compulsory hospitalization and police interference, all of which would intimidate the addict and drive him back to the underworld supply, and thus defeat our primary purpose. We have no "registration" to compromise addicts or subject them to possible blackmail. Their secret is guarded in strict confidence. We work in harmony with officials, but *not* to the extent of betraying confidences.

scientific means by which cures may be effected.

Much has been written regarding addiction that has been actuated by mercenary interests. Facts regarding morphinism are known to but few. The literature is filled with various "treatments," a few only by scientific men who have a conception of drug addiction-disease and what it means.

The "reduction" treatment is much dis-



FIG. 4. The Private Office.

TREATMENTS.

This Dispensary does not attempt to cure addicts, realizing that this is a problem that can only be solved when addiction-disease is better understood. We are establishing, however, in connection with our Dispensary, a "research laboratory" with the hope that ultimately this may lead to some

cussed. In our opinion, it is a fallacy, pure and simple. The "hot shot" and other forms of treatment are empirical and not based on scientific knowledge. Some are effective, no doubt, in individual cases, but this obtains only in isolated cases and must not be confused with the entire problem of addiction-disease.

The "forcible reduction" treatment will do more harm than good, and is worse than no treatment at all, and I quote from an article, written by Dr. Bishop, of New York, an excerpt which meets with our approval:

"The forcible reduction of dose without regard to the environmental, economic, physical or other conditions of the average and individual addict, and absolutely ignoring the considerations of the mechanism and symptomatology of his addiction-disease is barbarous, harmful and futile. Enforced

practically as hard to withdraw a narcotic drug from any addict whose body need is half a grain a day as it is from one whose body need is five grains a day. The average narcotic addict must support himself and family. His physical well-being and economic efficiency are considerations in the community in which he lives. In view of what I know can be done for final cure, I do not hesitate to say that it is much wiser to supply to this man the drug of his addiction to the extent of his body need and to teach him how to use the drug of

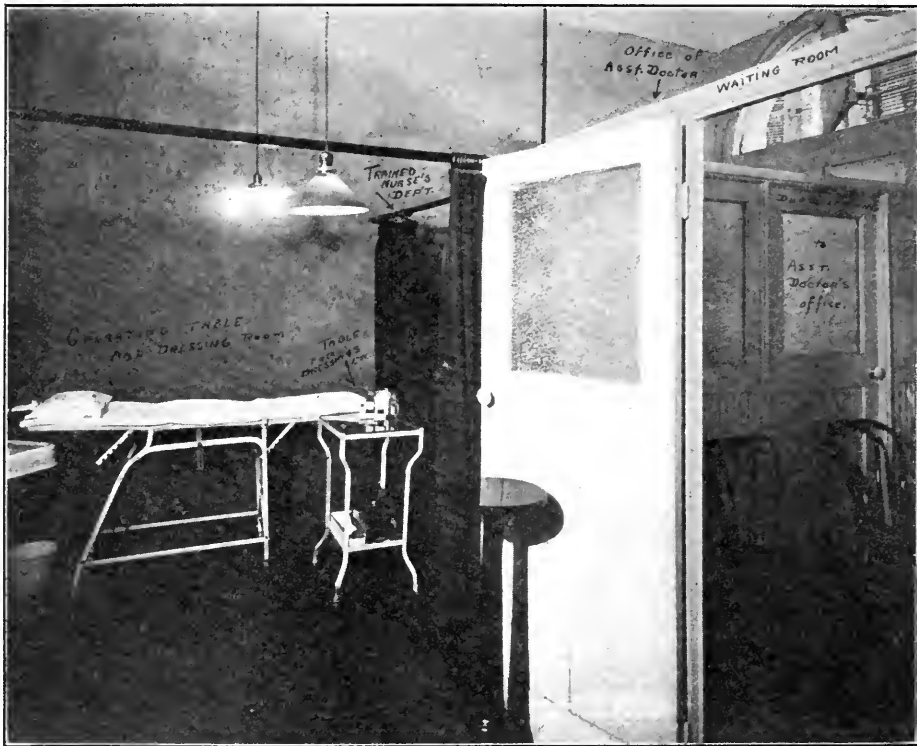


FIG. 5. The Medical Clinic for Examinations, Treatment, Etc.

reduction of dose below the point of body need is not worth what it costs in nerve strain, suffering and physical inadequacy. The extent of addiction-disease and degree of progress in its remedy cannot be measured in terms of amount of drug administered. It must be measured in terms of clinical symptomatology. Reduction of dose below the amount of body need constitutes a serious therapeutic handicap and is most decidedly contraindicated. It is

addiction in such a way as will maintain his physical and economic efficiency than it is by enforced reduction of dose to deprive him for a long time of working ability and his family of his support. Furthermore, the addict who is insufficiently supplied with narcotic drug turns in desperation to the use of other things more harmful to him than the drug of his addiction. This he does in the vain hope of obtaining mental and physical stimulus and support and

some surcease of his misery. The many wrecks of addicts to be seen trying to endure thru insufficient supply of narcotic drug, self-poisoned with other drugs which they purchased, alcohol, bromide, coal-tar products, cocaine and, of late, hyoscine—their addiction-disease unrelieved and undiminished—are sufficient argument against mere reduction of dose. The ultimate withdrawal of drug from the narcotic addict is simply one stage and is not, by any means, the most important stage in his rational handling.”

The Dispensary has accomplished the following: Temporary relief of addicts at minimum cost. No new recruits thru this Dispensary. Petty thievery diminished among the lower class of addicts. We have made economic assets of many who formerly were human derelicts. We have made many happy mothers and children by enabling fathers and husbands to keep honestly employed. We have raised the morale of addicts to the extent that they no longer wish to steal, since the actuating motive has been removed. We have concentrated and segregated the principal offenders in petty crime. We have surrounded the high-type addicts with security and protection. All addicts are known and if any are “wrong-doers,” they are apprehended. This instils a fear of crime and results in good behavior. The addicts have come to know the Dispensary as their best friend where the hand of sympathy and understanding is held out to them. All of this has been accomplished at no cost to State or Board of Health. Our fight has been hard, due to the ignorance of laity and medical profession as well.

We knew that our efforts were directed properly when the American Public Health Association held its last annual meeting in New Orleans, and corroborated our deductions. Comprehensive discussions on the subject gave us courage to go forward.

We will finally conclude by using the language of Dr. Bishop, which expresses sentiments that can neither be improved upon nor added to:

“Before we can know what we can do for them, we must know what they are; before we can help them, we must know what is the matter with them. We have talked of drug addicts as if they were a class or type of person who might be typified by this title; as if there were drug addicts as differentiated in common characteristics from those who are not drug addicts.”

NARCOTIC DRUG ADDICTION AND RATIONAL ADMINISTRATION.

BY

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There is scarcely any honest attitude towards health, social or other problems, that it is not at least partly right.

It was such an attitude that led to my first interest in narcotic drug addiction. As Health Officer of a rapidly growing city, my attention was called in 1911 to the promiscuous dispensing of narcotic drugs by druggists in large quantities, and to all classes of people with or without a physician's prescription, as the case might be. I at first thought, as did my informer, that this practice was largely responsible for the prevalence of narcotic drug addiction, and it seemed a simple matter thru the passage and enforcement of suitable laws to put an end to the practice and go far towards solving the problem of drug addiction.

It was not especially difficult to secure the

passage of an ordinance covering the dispensing of opiate and other dangerous drugs. There were no large interests involved. The traffic which was indulged in by some druggists was not of such a nature that they could come into the open and fight for its protection, and the City Council without too much questioning passed the bill. Fortunately my curiosity had been aroused, and it occurred to me that it might be just as well to know what proportion of our population was addicted to the use of "habit forming" drugs, as I then called them, who these people were, where they lived, and why they took these drugs.

In order that this information might be forthcoming I incorporated into the bill certain provisions which automatically brought this information to the health officer. One of these required that physicians writing a prescription for more than a specified limited amount of certain drugs should send a copy of the prescription together with the name of the person for whom it was intended to the health officer. Another provision required that the health officer might if he saw fit, write prescriptions for these drugs without charge to such individuals as could not pay for a prescription. This latter provision was designed to leave no excuse for "counter sales" by druggists on the plea, often made, that they sold only to individuals who were not able to pay a physician to write them a prescription.

This law went into effect in 1911, and almost immediately my troubles began. The law had the very general support of physicians and druggists, and only a few prosecutions were necessary to secure its rigid observance. By the end of the second year I had obtained what I then believed was a pretty complete census of "habit forming" drugs in the city. Including users of co-

caine, these drug addicts comprised one and four-tenths per cent. of the city's population. This figure was not complete, as I afterwards discovered that a considerable number of addicts were not registered at the health office, but secured their drugs by mail order direct from manufacturers or druggists in other localities.

One of the most important discoveries we made at that time was that a very large proportion of the users of opiate drugs—not cocaine—were respectable hard-working individuals in all walks of life, and that the smaller part only, according to my figures about 18 per cent., could in any way be considered as belonging to the underworld. In this 18 per cent. were included those who used cocaine, as well as the true opiate addict.

Of the total number of registered addicts, about one-half were personally known to me. Many of these came regularly for their prescriptions, while others who could well afford to pay for their prescriptions, but were aware of our interest in the subject, came to me for advice and help. One of the first questions that I was asked, and this practically invariably, when it was seen that I was not trying to persecute but merely to discover facts, was "Where can I get treatment? How can I get rid of this thing?" *I have yet to see the first drug addict who does not honestly wish to be cured*, and I have known them in all walks of life from the preacher to the prostitute.

When this law began to operate and large numbers of addicts, men and women, and even boys and girls, came to what rapidly developed into a clinic tho it was not so intended at first, I had no fixed ideas as to the nature of drug addiction. I had never discussed its characteristics with medical men. I had never attempted to treat the

condition, and I was as nearly as a physician may well be, unbiased. I had of course heard of gradual reduction, certain of the "chain-store" methods with chloride of gold, hyoscine, etc., and before our clinic had been running long, someone called my attention to the Towns-Lambert specific. I was even tempted to try by gradual reduction to get certain individuals who were particularly anxious to be cured, off of their drugs. I early discovered that I at least could not do it, and that the condition to which I brought them was worse than that of which I attempted to relieve them.

This led of course to the question of hospital treatment. There was no institution in the city which cared to take these cases except private nurses were furnished. In most cases such a procedure was impossible on account of its expense. Many of these patients had already taken treatment in various private institutions and as a result were not financially able to bear the cost of further experiment. A few were treated upon their own request at the City Prison Farm by the city physician, and from time to time small sums of money were raised to treat some especially needy and worthy case that was called to the attention of philanthropic individuals.

In every case records were kept and efforts made to determine the causes or cause leading to the addiction. If any ideas lingered that inherent depravity was a common actuating cause, they were soon dispelled by the histories we recorded. We also discovered that it was not a problem for legislation or for police activity alone but that it was a real medical and health problem, and lacking any accurate knowledge of a satisfactory method of treatment we found ourselves in a most difficult and equivocal position. The more we looked

into different methods of treatment, the more we became convinced of their unsatisfactory nature.

In 1913 at the meeting of the American Public Health Association, held in Colorado Springs, I reported our findings and experiences, and urged the Association to take the matter up as a public health problem of importance.

At this stage the truth of my opening sentence is apparent, for while I recognized the medical and public health angles of the problem, I still felt that rigid laws offered great promise. I felt with others that a national law which would control interstate traffic in these drugs would solve the greatest part of the difficulties confronting us. It must be borne in mind that at this period only a few states had restrictive laws that were not openly broken on every side and for the most part the formality of a physician's prescription was rarely observed by druggists in dispensing any of the addiction or habit forming drugs. Effectual restrictive legislation had never been tried and it was perhaps not unnatural to suppose that with the well-known sources of supply curbed, the use of these drugs would be very materially if not entirely prevented. It is obvious, however, that we had counted without the peddler. We had not realized that the moment restrictive legislation made these drugs difficult to secure legitimately, the drugs would also be made profitable to illicit traffickers.

I had had practically no experience with this fraternity for a reason which I now understand well, namely because we furnished in the health office free prescriptions for those unable to pay for them, nor did we try to dictate to them the quantities they should take or for that matter humiliate or

persecute them in any other way. As a consequence the peddler could not make a living in our town, tho he had begun to flourish in Massachusetts and New York.

Feeling as I did about the need for further restrictive legislation, I looked forward to the passage of the Harrison Act, and during the months immediately preceding its beginning operation in May, 1915, we tried to prepare our indigent cases for the drug deprivation which we believed was in store for them. They were urged to reduce their daily amount to the lowest possible limit, and they earnestly cooperated, and looked forward as did we to the time when they would be cured. Meanwhile, a fund was raised by private subscription and hospital and nursing facilities provided for about twenty beds. These beds were filled and refilled until between sixty-five and seventy-five patients had been treated. This is one of the experiences in my attempts to work out this problem which I do not like to recall. A local physician kindly volunteered to treat these cases. Altho not practicing, I visited them daily, and the nursing attention they received was of the highest order. The method of treatment employed was that known as the Towns treatment. We felt, as do most when contemplating drug addiction treatment, that a certain amount of suffering was necessary, but I was not prepared for the extreme suffering which I witnessed in these cases, nor was I prepared for one death which occurred in an apparently healthy woman. With the exception of two or three, all of these cases relapsed within a very short time after their discharge as "cured," and I realized more than ever that here was indeed a medical problem and I began to harbor my first doubts as to the wisdom of blind restric-

tive legislation. And by this I mean legislation based upon the "habit" and "vice" theories of drug addiction and upon the assumption that satisfactory methods of treatment are generally available.

In the passage of the Harrison Act and other anti-narcotic laws we have a further example of being partly right. Splendid in its objective, praiseworthy in its intent to control or remedy the abuse of narcotic drugs, this law nevertheless fails to appreciate the true nature of the condition sought to be controlled.

While my active health administrative work ended in January, 1917, membership on the Committee on Habit Forming Drugs of the American Public Health Association made it necessary to continue to keep in touch with the problem and situation, and it was not a far call to a determined effort to find all that medical literature offered.

Here again is recalled an unpleasant chapter when I found that for four years I had been attempting to administer this problem in an American city thru the workings of what I believed to be a modern health department without having really made any earnest effort to inform myself as to the true nature of narcotic drug addiction. I knew nothing of the work of Gioffreddi, Hirschlaff, Rubsamen, Valenti, Bishop, and but very little of that of Petty and Jennings, nor had I any conception that a host of others had made valuable observations upon this subject. It was only after reviewing this literature that I have been able to explain to my complete satisfaction my own failures in Jacksonville and the foredoomed failure of every law or administrator that does not take into account the true disease nature of narcotic drug addiction. I have seen practicing physicians when urged to assist, try one routine

method after another without avail. I had heard neurologists and psychiatrists expatiate upon the many and varied nervous and mental "stigmata." I had seen judges convict for possession of the drug, and I had seen patients die under treatment, and yet I had never fully realized that all these things were happening to men and women old and young of all classes and social groups who were just as truly sick as they would have been had Bright's disease or typhoid been the diagnosis.

One feature which my experience in Jacksonville taught me was that a large proportion of narcotic drug addiction cases owed their origin to the therapeutics of the medical profession, to the ignorant or unavoidable prescribing of narcotic drugs for prolonged periods. In fifty-four per cent. of my cases this etiologic factor appeared, and the figures of other observers are even higher than mine, in this respect. Yet it is well known that the average member of the medical profession will shun in every possible way the treatment of drug addiction. That there must be some reason for this attitude of the profession and for the profession's ignorance in the handling of narcotic drugs I felt sure.

In reviewing my own medical training I realized that I had never been shown a case of narcotic drug addiction, that I had never been given the opportunity to observe the symptoms of drug withdrawal, and that the only lectures to which I had listened in connection with opium and its derivatives dealt with its therapeutic properties, while its addiction-forming properties were mentioned in but the most casual manner. Was not my own ignorance directly attributable to this lack of medical instruction?

That my experience was not unique was determined by the Committee on Habit

Forming Drugs of the American Public Health Association, thru a questionnaire submitted to the medical schools of the country. The following paragraph quoted from the Committee's Report of 1919, summarizes the findings as follows:

"Of the 85 (eighty-five) institutions queried, 37 (thirty-seven) or 43 per cent. replied. Among these replies were included the leading schools of this country. A brief review of the data so obtained indicates that the time devoted to the physiologic, clinical and therapeutic consideration of opiate drug addiction averaged about two hours, and that in several institutions the subject was not considered at all. In 25 (twenty-five) of these schools the subject was taken up only under materia medica or therapeutics in the second year's course and, in 9 (nine) schools under the consideration of mental and nervous diseases. Clinical material was woefully lacking, none at all being available in 13 (thirteen) of these schools, while in the others the replies stated that opportunities to observe these cases were 'rare,' 'infrequent' or 'limited' to an occasional case seen in the insane asylum or jails.

"The text-books used were, with one exception, those which teach the old 'habit' and 'vice' theories, and in which medical treatment is confined to routine procedure and specific formulae. None of the more recent experimental or clinical work was mentioned."

With the above facts confronting us; with our graduates in medicine almost totally unprepared to treat this condition; with "habit," "vice," "degeneracy" and other similar descriptive characterization employed by writers of medical text-books for the last half century, is it any wonder that the profession as a whole has refused to seriously consider the matter, that moralists and reformers and penologists have seized the opportunity to stimulate the passage of laws, which, however well intentioned, have almost entirely overlooked the medical and physical needs of the suf-

ferer, or have left them to the interpretation of lay administrators?

In the unread articles of the authors mentioned above and others, in the descriptions of Hirschlaff's rabbits and Valenti's dogs, in Petty's cases of addiction in the new-born, in Bishop's clinical observations, etc., lies the real solution of the narcotic drug addiction-disease problem. That it is a medical problem becomes apparent. That it is also an administrative problem no one will deny. So is tuberculosis. So is typhoid. But with these two diseases pathology is recognized and medical treatment considered a *sine qua non*. Why then in the case of another disease just as real, far more serious and involving a larger number of sufferers than both the preceding, should we leave to the judge, the dope squad, or the Revenue agent the determination of its proper management?

By all means let us have administration, and let that administration carry as it does in other health problems, help and understanding. Let it seek both to protect the well and to heal the sick. Let it seek to determine etiologic factors and where possible control them. Let it study the modes of extension of the disease and combat them by rational procedure. Let it teach whenever the lesson is needed the true nature of this condition. We have had part truths and lies long enough. The exploiter, the reformer, the quack and the criminal trafficker have all benefited by them, and today with all our laws and all our moralists we are informed by the Committee appointed by the Secretary of the Treasury to study the extent of drug addiction in this country that the illegitimate supply at least equals that which passes thru legal channels.

It would seem unnecessary to state that

the narcotic drug addict must be supplied with his drug in doses physically necessary until such time as he may receive treatment which will leave him in at least as good condition as that in which it found him. That to supply this drug is not only necessary, but is vital, that to deny it is to cause a physical and possibly a moral wreck, while to heap contumely upon narcotic drug addicts as a whole is to drive them to the underworld for their supply. It never must be lost sight of that among the sufferers from this disease are numbered many of the highest intellectual types of men and women in the business and professional worlds, and that individuals of this type may not contemplate the indignities which many administrators seek to heap upon them, thru their ignorance of the true nature of this condition and their apparent misconception of the character of its victims.

The above statements must not be interpreted to mean favoring or recommending the indefinitely prolonged supplying of narcotic drugs to addicts. They mean only that such supply is at present a temporary necessity designed to tide over a period of medical education after which an enlightened profession will easily relieve their condition. There is no disease known to medicine that offers greater hope of cure than does narcotic drug addiction-disease, when once practitioners shall have come to study the drug reactions and the symptom-complex of the malady in the same spirit of scientific investigation that they accord the other clinical entities.

Narcotic drug addiction-disease will never be solved by forcible measures only. There is a place and a great need for such measures and they should be limited to this field alone, namely to the control of traffickers, exploiters, charlatans and quacks.

Yet even here police measures to be successful must go hand in hand with intelligent medical services. If anyone doubts this let him try to extinguish the underground traffic in narcotic drugs by police measures alone. Experience has shown this to be impossible during the four years' enforcement of various restrictive legislative and administrative experiments. The only way that peddling will ever be controlled is thru the intelligent application of our medical knowledge of the needs of the situation in such a manner as to make peddling unprofitable. By this I mean that the moment it is realized by officials and the public that narcotic drug addicts must be supplied with the drug of their addiction until such time as successful and satisfactory treatment is available, that moment is the first step taken to undermine the profits of the peddler. This person must be met upon his own grounds as it were, by intelligent administrators, by honest physicians and humane consideration. He is only in it for the money. Yet today one of the most prolific causes of narcotic drug addiction is the activity of drug traffickers in extending the scope of their operations.

In addition to these temporary measures there must be instituted and carried thru a widespread program of education which shall begin in the medical schools and spread broadcast thruout society generally.

Neuritis and Sciatica: Camphor Injections.—A. S. Jensen states that in thirteen cases of sciatica, treated by injection of 3 or 4 c. c. of camphorated oil in the affected limb, the pain subsided completely in the course of ten or twelve days. He also found this method useful in neuritis, the pain subsiding within five or six days.—(*Ugeskrift for Læger*, 1919, 81, 1216; July 24).

POLICE POWERS VS. SCIENCE IN THE CARE AND MANAGEMENT OF THE OPIUM ADDICT.

BY

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In the study of this question, we are at once confronted with the great problem "Is the continued use of opium a misdemeanor or is it a disease?"

I have already touched upon this question in a great many articles that have been published from time to time. No harm can follow the répétition of my views on this important subject.

Chronic lead poisoning, chronic arsenic poisoning and chronic phosphorous poisoning are recognized as diseased conditions. So many diseases and diseased conditions are caused by microbic organisms that some have apparently forgotten that disease can be caused in other ways.

My professor of medicine once said in the course of a lecture, "they tell us that all disease is caused by microbes. Whiskey is no microbe, yet whiskey causes disease."

The three toxemias above mentioned are also known as occupational diseases. They are so called because the victim acquired the disease directly by reason of the nature of his calling.

There are toxemias where the toxic material gets into the system from without.

Opiumism is also a toxemia where the toxic material gets into the system from without.

It is right at this point where the fanatical reformer immediately becomes hysterical. "Yes, the poison is taken into the system from without, and the addict puts the vile stuff into his system of his own free will and ac-

cord. No one has a right to pollute or poison the body," and so on, *ad lib.*

Here is where I disagree with the reformer. I claim that the continued use of opium, or any of its derivatives, is not a voluntary act. That is, it is not a voluntary act after the victim becomes an addict, in the ordinary sense of that word.

If 25% of all addicts should voluntarily discontinue the use of the drug, we would be justified in holding the other 75% responsible for not doing likewise.

If 10% of all addicts discontinued the use of the drug voluntarily, we might hold the 90% responsible.

However, as less than $\frac{1}{10}$ th of 1% of all addicts have succeeded in gaining their freedom unaided, it appears to me that instead of jumping at conclusions, we should do some very serious thinking.

To one who still has a vision, that is not clouded by fanaticism, I should think that it might appear that there must be something about the drug itself and its peculiar effects upon the mind and body of the addict to account for the singular fact that very few addicts, indeed, are ever able to secure freedom unaided.

There is no doubt about this fact whatever, in the minds of those who have had the care of addicts over a long period of time. Those who become experts upon opiumism over night may think differently. If it were not for the mischief that they can do, and are doing, it would not matter a rap what such self-styled experts think. A man treats 300 addicted soldiers by the simple process of locking them up, and gathers from this fact that as none have died, this is a sane line of treatment for all cases.

These cases were young men. In the nature of the cases we should expect that they were recent addictions.

Nevertheless, I do not agree that this was the correct way to treat these young men. If I live many years longer, it would not be matter of the least surprise to me that I should be called upon to treat a number of these supposedly cured cases of opiumism. In spite of their youth and in spite of the probable brief duration of their addiction, I think it likely that there were a considerable number of them left with a badly shattered nervous system.

Even if this is not the case, it was not a correct method of treatment, because the suffering connected with that mode of treatment was a wholly unnecessary suffering.

The reader may say that this is as it should be. They have been taught an excellent lesson.

Does the reader mean to tell me that these soldier boys should be punished because they had the misfortune to become addicted to morphine thru the performance of their patriotic duty as soldiers?

I did not see a single one of these soldier boys. Have had no correspondence with any of them. In making the statement that I expect to have some of them to treat, I do so upon the strength of my past experience with opium addicts. This treatment that the boys have undergone will be, for many of them, only the first chapter of their experience with morphinism.

Suffering does not prevent relapse if predisposed to it.

Things as regard morphinism are in a confused condition. This is because opiumism is supposed to be a fault, whereas if everyone looked upon it as a disease, the whole question would be much more easily solved.

The trouble just at present is that one

hundred million people, each one knowing about one millionth part of enough about opiumism to amount to anything, have asked their lawmakers, who know no more about it than they do, to solve the problem by legal enactment. The problem is still unsolved.

It is not only unsolved, it has been made more complicated. Why? Because morphinism is a disease, and not a vice or misdemeanor, as our lawmakers seem to have thought.

The lawmakers have complicated the problem in many ways. In this one way in particular, the morphine addict must have enough morphine to satisfy the craving of his addiction or he cannot work. The reader may say "all stuff and nonsense." I repeat, the addict must have enough morphine to satisfy the demands of his addiction or he cannot work. In saying this I know precisely what I am talking about. If the addict is not able to work he may be able to steal. The law has driven many working people to crime. And now they lay the crime, that the law itself has caused, to morphine. They admit that the law has failed

But they are not ready to admit that they were mistaken in their conception of the whole matter. They are not yet ready to admit that morphinism is a disease and, therefore, a question for science to solve, and not a question for the law. "No," they say, "we have not gotten the matter settled yet, but give us more drastic laws and we will settle it."

In other words, if the wrong medicine will not cure, give it in greatly increased doses. In ordinary practice we would expect to kill rather than to cure by such practice. As a matter of fact, the law is destructive rather than constructive. Lives

have been sacrificed, hundreds of them already, either by the brutality of its application, or by suicide. The reader may say "is suicide to be charged up to the law?"

Why not? Give the addict an assured supply of his drug at prices that are not beyond his earning capacity, and he will not commit suicide. This being the case, to what can we ascribe the numerous suicides among these people, but to the ignorant meddling of the law?

Many of my readers, I am ashamed to say, will say at this point "let them commit suicide; they are better off dead anyway."

Are they? I have now a patient under my care, a morphine addict, who draws \$8,000 per annum salary, and earns it. Oh yes, but he is an exception. He may be an exception so far as the amount of his salary is concerned, but he is not an exception so far as useful citizenship is concerned.

It is unfortunate that it is the poor addict, poor in purse, poor in mental and moral endowment, the unfortunate addict of the police court, who is most in evidence.

Those who form a snap judgment of morphinism, thru association with this class of addicts, are both unscientific and unfair. Unscientific because the degeneracy seen among this class is usually due to many factors besides morphinism, *viz.*, preaddiction, defective mental and moral development, cocaine, whiskey, syphilis, moral imbecility, poor food, etc., etc.

A judgment formed by association with the above class would most certainly be unfair to a very large percentage of all addicts.

As I have already hinted, there is a large number of perfectly good people to be found among them. This class of addicts

is not much in evidence. They have too much pride to make a parade of their affliction.

The truth in regard to morphinism must be recognized before there can be much progress made in the solution of this perplexing problem.

The fact that morphinism is a disease is the main fact that should have recognition. Once let this fact become thoroly recognized, and it will be evident that the solution of the problem belongs to the medical profession.

The best interests of society and of the medical profession demand that we seek our knowledge of one another and from those who are proficient in those sciences that are allied to medicine. It is not good for society, not good for the lawmakers themselves, that they should tell us what to do or what not to do, in the care and management of the sick.

This does not mean that we have no need of the assistance of the lawmakers in our attempts to lessen the spread of morphinism. With advice and counsel of the medical profession to aid them, they have acted wisely in all matters pertaining to the public health.

In the same way, with the assistance of the medical profession, they have shown wisdom in the care of the insane, and in nearly all matters related to this unfortunate class of our people.

As yet we, of the medical profession, have formulated no definite policy as to the best way to deal with morphinism.

Until we do establish some definite policy the problem cannot be correctly solved. It is useless to expect the lay lawmaker to discover the right way to deal with any strictly medical problem, if he lacks the sane guidance of the medical profession.

This he has not received as yet. He has had the advice and council of many who were in no sense whatever experts upon morphinism. As a medical student, it was impressed upon me repeatedly by different members of the faculty to always answer "I do not know" to all questions regarding medical matters of which I had no knowledge or too little knowledge to warrant the giving of an authoritative answer.

No matter how many cases a man may have been called upon to treat, if he has treated these cases during a very brief period of time he is not entitled to call himself an expert.

There are a number of physicians who do have expert knowledge regarding morphinism. Their number is too small as yet to have any great influence with the medical profession as a whole. However, I feel certain that the work that these few are doing will bear fruit in time.

We will suppose, for the convenience of this article, that the question "Is morphinism a disease?" has been settled in the affirmative.

What next? The reader may answer, "Put them all in the hospitals, of course."

Will this settle the question for those who are now addicted?

It will not. Such a line of procedure will only make the problem more perplexing and more hopeless of solution than ever. Who is there in our many hospitals today who have the experience and the knowledge that goes with it that will enable them to properly manage and treat these unfortunate people? To throw all these people into hospitals at once would be very disconcerting to those in charge of these institutions. Precious few cures would be made. Those in charge of the hospitals would surely become utterly disgusted with

the unfortunate addicts. The addicts in turn would leave the hospitals with fewer friends than they had before. The Lord knows they are in need of friends now. More than this they would leave the hospitals with a feeling of bitterness for those in charge. As I have said, few would be cured.

Ninety per cent. of those not cured would be in a worse condition of both mind and body than they were before anything had been attempted in their behalf.

I regret to say so, but there is too little knowledge among physicians of morphinism and too little equipment to enable the police powers, even under expert advice to deal summarily, and at the same time wisely, with this problem. Good work is being done for the addict in various parts of the country. I have good reason to believe that this good work will increase in volume. But it is impossible to deal correctly with the whole vast army of addicts in the country at once.

I wish to say a few words about reforms, movements, etc. While not strictly medical in character, I believe that what I have to say will be germane to the matters treated in this article. Reform movements arise in many different ways. Some make but little progress for years and years. In other words, the movement does neither good nor harm. To the female social climber, reform is the "jimmy" with which she opens certain doors that might otherwise remain forever closed to her.

To the politician, reform is "the goose that lays the golden eggs." When the movement is feeble and unpopular the politician keeps away from it as if it carried a smallpox sign. But the social climber can make a feeble reform movement serve her purpose. The grand dames of New

York's exclusive set are not the only ladies belonging to exclusive social sets. Every little city, every town, every tiny hamlet in this broad land of ours, has its social set. When the climbers get a movement far enough under way so that it looks like a good vote-getter, the politicians jump in and the movement begins to gather a speed that is truly astonishing.

In addition to these two self-seeking classes that are to be found in all such movements, we have the crack-brained fanatic, the bigot, the ascetic, the man who embraces every opportunity to address the meeting and any number of just plain ordinary fools.

The trouble, in my mind, with the anti-narcotic movement has been that it gathered too much speed. It arrived too soon. It found us unprepared.

We all prophesied that this would never be a prohibition nation. No, not in a million years. All of us are wiser now. Some of us are sadder.

I advise every physician to sit up and take notice of a certain feature of the anti-narcotic movement that I am told is already under way. That is, I am told that there is already a movement on foot to do away with opium altogether. Do not pooh, pooh, at this idea and say that it never can happen. Most anything may happen these days. The reason that I say this so confidently is because some astonishing things have already happened. Be careful that you do not unconsciously become a propagandist in this very movement yourself.

In a certain neighborhood of Baltimore I was told by more than one virtuous physician "I do not give a dose of morphine once in six months." Nevertheless, the druggist of that neighborhood told me, without knowing what the doctors had said,

that more than one-third of the prescriptions that came to him contained orders for some form of opium. At that particular time that the druggist said this, nearly everyone in that community was having some sort of trouble with the air passages. So I think that there is no need to criticize the doctors if they were prescribing opiates rather freely just then. What other drug could they have prescribed at that particular time that would have met the conditions so well?

I advice physicians at this time to be careful not to say anything to the laity about the opiates that they would not dare to say openly in their medical society.

Mrs. A. says to Mrs. B. "We ought to get together and organize a crusade to stop the growing of a single poppy." Mrs. B. replies, "Why, my doctor says that opium properly used is the most useful drug we have."

Mrs. A. replies, "My doctor never uses morphine or anything like that. He says that there is absolutely no need to use any form of opium whatever. He says that there are other things that will stop pain a great deal better than morphine or anything like that. Why I had the most terrible pain last week and the doctor left me two tiny little tablets that stopped my pain right away."

I say again, doctor, be careful how you add comfort and consolation to the pack of addle-pated fools, who are trying to start this new crusade. The most unlikely person may be a member or in association with members. No reform is likely to be popular that does not hit the other fellow. Suppose someone should conceive the worthy idea that all dogs should be banished from the city forever, giving as his reason the danger that children may be bitten, the danger of hydrophobia, the danger that dogs may carry disease germs from house to house. These reasons for such

a movement are sound. But what person has the temerity to face the wrath and indignation of the owners of canine pets, especially the wrath of the very dames who are making so much trouble for the other fellow with their pet movements and reforms. For every hound, every cur and every little poodle, is somebody's pet, somebody's darling.

The auto kills or maims a prodigious number of people every year. Will someone start a crusade to do away with this machine. Certainly not. We all like to joy-ride, every man, woman and child of us. Yes, but think of the killed and maimed. Killed and maimed be damned. Accidents will happen. Still, there is no telling to what lengths any propaganda may go, providing it hits the other fellow. "We compound for sins we have a mind to, by damning those we are not inclined to."

The power of persistent propaganda is, perhaps, better understood today than ever before. All the evidence that we have been able to collect goes to prove that the Germans were prepared for the great war by persistent propaganda.

The German Government seems to have attached as much importance to this psychic preparation for war as it did to the wonderful physical preparation in the essential direction of munitions and military training.

The fact that we are now a prohibition nation, for better or worse, is an eloquent testimony to the power of persistent propaganda.

It will not do to say that all propaganda will fail that is not founded upon right and justice. The German propaganda was not founded upon right and justice. It did fail from the German point of view. As a power for harm and as a producer of

misery and woe and general wreckage it nevertheless succeeded admirably.

The necessity for counter propaganda is seen today as never before. Propaganda is nothing more nor less than what the psychologist means by repeated suggestion. We all know the power of a lie for mischief when it is persistently repeated by thousands of people.

The conception of the people in regard to the morphine addict is wholly wrong. The motion picture is a wonderful force for the teaching of right ideas. It can be made equally effective in promoting error. The same is true of the daily paper. Both have been active in spreading erroneous notions of the morphine addict.

I verily believe that there lives not an actor in the whole world who is so completely master of his profession as to be able to give a true portrayal of the morphine addict. This being the case, I believe that all pretended drug scenes should be barred from the stage and from motion picture films. For unless we can get the truth from these sources it is better that we get nothing.

I believe that neither the press nor the motion picture people have any intent to do harm. However, the continual repetition of erroneous ideas does do harm.

For centuries nothing has contributed so much towards making painful disease and painful injuries endurable as opium. Opium is of far greater use than the automobile. How long it has been in use I do not know. Two thousand years ago the Roman poet, Ovid, sang of the delightful properties of the *papaver somniferus*. He may have known too much about the sleep-bearing poppy. I think not. For the character of his poems is, I think, beyond the ambition or the power of the

addict for persistent mental concentration. His experience, I think, was nothing more than the ordinary grateful experience of countless thousands who have been relieved from pain by opium.

If we should be deprived of opium the world would suffer an incalculable loss. We of the medical profession will suffer a loss that cannot be estimated if we are deprived of the use of opium. We will lose a valuable means of doing good. This will not be our greatest loss. If we suffer this propaganda to go unchallenged, the idea will prevail that our science is of so little account that the laity knows as well or better than we what we should do. I am pained to know that many of our own profession are helping the fanatical in propagating error. On the other hand, in using opium its dangers should always be borne in mind.

The second great question in connection with morphinism is that the removal of the drug from the confirmed addict is a dangerous operation unless the matter is correctly managed. This fact alone should make the care and management of the addict more a problem for medical science to cope with than a matter for the police to manage.

A member of the faculty of one of our very best medical schools made this remark in regard to a patient who had been operated on in the hospital of that school.

The family doctor asked if the surgeon thought that the patient's morphine addiction had been cured as well as the surgical disease. He answered, "She will be cured if she cannot get it, will she not?" He seemed to think that in making this answer he had said all there was to say. When we find such ignorance as this in the medical faculty of no mean medical school, what can we expect in the profession at large?

The above idea is absolutely false. Complete separation of the addict from his supply does not necessarily mean a cure even if the separation is permanent. If morphinism is nothing more than a vicious habit, of course separation from the supply does mean that the habit has stopped.

Morphinism is a disease and not merely a vicious habit. Forcible separation of an addict from his drug is often followed by a profound mental depression. During this depression suicide is by no means uncommon. If the lady had committed suicide as a direct result of this violent shock to her nervous system, would the reader imagine that she had been cured of her morphinism? To my poor understanding to cure one means to restore that party to health.

If the lady had left the hospital permanently insane, would the reader call that a cure of morphinism, even tho the lady was at once placed in an asylum where she could never get another dose of the drug?

Had the lady left the hospital not exactly insane, but with such damage to the central nervous system that her usefulness in her community and to her family and friends was permanently damaged, would the reader call that a cure, even tho there was no more morphine taken?

Of course, from the habit standpoint, the habit in any of these instances would be stopped. Perhaps the reader is inclined to think that such things never happen or that if they do happen that it is due to the morphine previously taken.

These things happen from the shock of withdrawal, not from the addiction itself. This shock of withdrawal can be prevented. There is no danger in removing the morphine if it is correctly done. I fancy that it will take more than argument to make many of my readers believe that it is dan-

gerous to take the morphine away from an apparently good prospect. That is a case that seems to be free from concurrent troubles. There is only one way that many of my readers can ever be convinced of this fact. That is, whenever this is done, there should be a record kept of what happens to the addict. The jail, the hospital, the asylum, the family doctor and everyone concerned should be made to keep a record of what happens to the addict after his drug has been taken away. If it is important that we report what we do with the morphine, is it not equally important to report what becomes of the addict?

In this free country of ours, what happens to the addict when he is thrown in jail is being systematically concealed. I say that if the profession is ever to learn the truth about this matter that all the cards must be placed face up on the table.

If the reader is inclined to believe that the police are competent to care for the addict when he has no concurrent disease, how about those cases who have syphilis of the nervous system, diabetes, nephritis, tuberculosis, heart lesions, aneurism, etc., etc? I have come in contact with all of these complications of morphinism. Do I advise that the addict afflicted with any of the above mentioned diseases would be better off to continue his addiction? I do not.

Syphilis is bad. Syphilis and morphinism are worse. Morphinism is a disease. Two diseases are never better than one. What I do believe is that cases like the ones just mentioned are not cases for the police to knock about.

We must give an account of all the morphine we prescribe, dispense or administer. Why not ask the powers-that-be to give an account of what happens to every ad-

dict who is rudely deprived of his drug without proper medical care?

I have more than a mere suspicion that the powers-that-be are in nowise anxious to furnish us with the actual facts. But we need to know these facts if we are to exercise sound judgment in the solution of this great problem. To my mind, those who make our laws and those who enforce them are as much out of place in handling the opium question as an old railway engineer would be who should attempt the navigation of an ocean liner.

SOME REASONS WHY THE NARCOTIC DRUG PROBLEM REMAINS UNSOLVED.

BY

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It is becoming apparent that in spite of most strenuous efforts, and most drastic and stringent measures directed at its control and regulation, the narcotic drug problem is not only unsolved, but in some respects remains more obscure than ever before and gives no promise of early betterment along dominating lines of present endeavor.

The innocent and worthy contractor of addiction is more harrassed, more worried and sees less hope of help. The great mass of honest practitioners of medicine are more uncertain as to their legal status in the use

of narcotic drugs and realize the jeopardy to them in the growing multiplicity of legal and administrative regulations. They are not only becoming less willing to care for the addiction-disease sufferer, but in many cases are hesitating to employ in the various therapeutic emergencies and indications of their practices, the indicated narcotic medication which might save life or prevent serious developments. The panic, uncertainty and potential jeopardy among druggists have become so great, that at some of their conferences they have seriously considered eliminating entirely from their shelves all narcotic drugs—a situation of gravest menace to honest therapeutics and to individual and community health which would be welcomed by nobody but the irresponsible fanatic, the ignorant reformer, and the smugglers and illicit peddlers of these drugs.

Smuggling, "underground" traffic and peddling of narcotics, which the Report of the Committee appointed by the Secretary of the Treasury states to be organized and to have increased to alarming proportions, seems under the favoring conditions of the situation not diminished, but probably greater than ever before, creating in the commercial extension of its business new customers among the adventurous and curious of youth, who are untaught as to the real disease nature of addiction, until it is revealed to them in the physical agonies of opiate "withdrawal" or physical need for their drug. This aspect of the situation is in its active growth and development a matter of recent years, fostered undoubtedly by the advertising effect of much of the publicity and announcement of the past decade.

This publicity has in great measure been unfortunate in its character, overlook-

ing the essential facts of the situation and tending to spectacular portrayal of incidentals. The situation and actual suffering of the great mass of worthy, honest and innocent sufferers from addiction-disease have been too little recognized and studied, and too seldom presented to either the medical or lay public. The honest as well as earnest efforts of medical practitioners to help sufferers from addiction-disease is unappreciated by the reading public, and is distracted from by more or less sensational publicity given to the occasional medical offender, whose number as admitted by officials during the course of the hearings of the New York State Legislative Committee investigation, is ridiculously small in comparison with the medical census and in comparison with the numbers of medical practitioners who have conscientiously and honestly, to the best of their ability and previous teachings, endeavored to help and treat the narcotic drug addict.

The harmful influence of their activities and the extent to which they have been factors in the development of the present situation are also ridiculously small in comparison to the menace and influence of illegitimate and criminal non-medical activities which have come to so flourish, and for which no competent control or check seems to be in general employment. Indeed in many instances these seem to have been stimulated and encouraged by the very measures initiated for their suppression, since at times the most rapid periods of development of some of the worst evils of the narcotic situation have been co-incident with some of the legislative and administrative experiments, the publicity which has attended them, and the panic among honest physicians, druggists and sufferers from ad-

diction-disease, which has resulted from their drastic enforcement.

There can be no charge nor suspicion of dishonesty, nor lack of honest intent in most of the efforts which have been made to remedy the narcotic situation and solve the "problem." Our legislatures and administrators have been as a rule honest in their efforts, proceeding to the best of their abilities upon what information has been brought to their attention. Their conception of a situation with which they have no personal experience, and of its control, is based of necessity upon hearsay and upon what they read in the daily press. They must reach their conclusions and create legislation from the preponderance of evidence brought before them, just as the courts must interpret the law and decisions upon cases coming under their jurisdiction.

The history of addiction control has been therefore like the history of efforts to control other evils, to dominate the situation by preponderating evidence in accordance with individual conceptions or interests or activities, in legislative halls, in courts of law and in public press. Various proponents of innumerable panaceas come forward with measures based upon their individual experience or interests or results of their activities. In the very nature of such a tremendous and complex situation as that of the narcotic drug problem, many of these advocates of measures have but narrow or limited experience. By accident of environment or circumstance or appointment they have come into contact with special phases or aspects of the situation and are unfamiliar with it as a whole. They naturally tend to intensify the phase or aspect with which they are concerned and to fight for such measures as will in their opinions further their particular inter-

ests or duties or activities, irrespective of their influence upon the situation as a whole which as a rule they do not appreciate. The struggle of the proponent for each measure is also, naturally, to minimize or discredit in so far as possible the influence of opinions and ideas which conflict with his ideas and purposes. It is only natural, moreover, for each proponent to be suspicious of the motives behind the work of those whose experience in phases of activity entirely different from his own and entirely dissociated from it, leads them to deductions and opinions and recommendations of remedial measures at variance with his own. To all of us our own field of endeavor seems of paramount importance, and the narrower it is the more highly we tend to estimate it and to judge all else in the light of its experiences, and to value the panaceas, medical, legislative, administrative or otherwise which we evolve.

The realization of failure of panaceas and cure-alls medical, legislative and administrative may be a necessary stage in progress towards final comprehension and common-sense solution. It is even possible that the present tense situation will prove to be of use in the hastening of final understanding. Just as war sometimes develops out of long-protracted differences in which people cannot see or refuse to see the points of view of others, so it may be that the narcotic situation must go on in its present panacea stage until it becomes unbearable and a terrific crisis brings about consideration of varying rights and principles and forces mutual adjustments.

Following the New York State Legislative Committee Investigation, with its mass of testimony showing the various conditions existing and the points of view and

problems of various aspects and phases, there was hope of a cessation of the continued warfare of factions and interests and opposing ideas and of a getting together of these into a disinterested evaluation of their individual importances and of their inter-reactions. There was hope that various activities, instead of opposing each other and trying to dominate each other and to regulate each other, would or might appreciate the limits of their individual points of view and correlate their efforts for the solution of the problems involved.

This, however, has not come to pass, but if anything, the friction between those holding different views of the situation has increased, distrust of each other has increased, and the struggle for the control of the situation has become more bitter, and in the intensity of the struggle for domination by one or another line of thought or method of management, the worst evils of the situation seem to have progressed with comparatively little attention being paid to them.

Consequently the greatest needs of the situation as made apparent in the testimony of the New York State Legislative Investigation, expressed in its Preliminary Report and called attention to in the Report of the Committee appointed by the Secretary of the Treasury, have been practically lost sight of.

These needs are scientific and clinical study and education, and the most important present activities must be along educational lines. Medical organization and lay education as to all available facts of addiction-disease, its physical development, its pathology and clinical manifestations, and finally its rational handling is the greatest need of the hour—and the most neglected. The collection, inspection, correlation, dis-

cussion and dissemination of the facts of addiction as a disease constitute at the present time the all important duty in connection with the narcotic drug problem.

That some health officials are recognizing this fact appears in a recent letter received by me from an official of the health board of a great state. It is worth quoting from, for the information and benefit of others. It states:—

"I fully believe from my own experience that a drug addict is a sick man and must be handled first from that point of view. I consider that *a vast amount of preliminary work must be done thru education before any official body is in a position to handle the subject in a real manner.* I am inclined to consider a clinic, hospitalization, correctional methods as secondary steps in the plan and appreciate that the first steps must be education and the gaining of confidence both of the physician and the patient. After this has been done the three factors outlined above will follow into line readily enough, but until this is done one's efforts are very apt to do more harm than good."

It is a very hopeful sign to note that experienced health administrators are more and more taking this attitude. It also expresses the conclusions reached by Senator George H. Whitney, after two years' experience as Chairman of the New York Legislative Investigation Committee.

Doubt of the present efficacy of such administrative panaceas as compulsory registration, compulsory hospitalization, of all addicts, etc., is also expressed in the Report of the Committee on Narcotic Drugs of the Section of Food and Drugs of the American Public Health Association. This Report contains most valuable and practical

discussion of the situation and should be read by all interested in addiction.

Certainly after the experiences of the past, and the lessons gained therefrom, the newly appointed administrator, health official or otherwise, will do well to go slowly and be very careful that his public announcements are competent and not misleading. He should also be very cautious in his initiation of drastic regulations or measures of forcible control. These things are far-reaching in their consequences, for many of them are very unfortunate in their reactions, both upon the individuals and upon the community, and their dangers may not become apparent to the inexperienced until after the damage has been done. It is much wiser and it is certainly better for society for our administrators to spend more time in becoming familiar with what has been done in the past, and what have been the consequences, both immediate and remote, and to get into touch with all sides of a very complex situation before rushing into public statement or public print, or taking premature action. Complete familiarity with even what is on record and available concerning the narcotic drug problem is not an achievement which is accomplished overnight nor by the incident of appointment to official position. Fortunately the older and more experienced officials recognize this fact.

Narcotic "clinics" are being widely discussed at present. They have, properly conducted, a very important function and can be a great benefit to the needy individual and to his community. The most successful clinic with which I am familiar is that conducted by Dr. M. W. Swords of the Louisiana State Board of Health, in New Orleans. It has all the atmosphere of medical practice, and is as devoid as

possible of any undue humiliation, publicity, police or correctional control, espionage, objectionable recording, etc. I had the pleasure of inspecting it and its work, and of learning something as to its results. As conducted it is a true medical and scientific public health, humanitarian and educational enterprise. I regret that I have not space to discuss its operation and results in greater detail. It is to be hoped that others similar to it will be established elsewhere, not only in connection with administrative departments, but in hospitals and other medical institutions. It is not simply a distributing place for narcotic drugs, but is a real medical institution giving to those who cannot afford or cannot obtain medical care, the same conscientious and intelligent consideration that is to be found in the office of a reputable and competent practitioner of medicine. It is such a place as I have long hoped to see established and it justifies the existence of a properly conducted narcotic clinic.

Where a narcotic clinic departs widely from medical and scientific atmosphere and conduct and becomes in effect a police or correctional activity it seems to me to defeat its own ends and to present dangers of fostering the very evils for the control of which it was established.

There are many other things to be discussed but time and space are lacking for them. Compulsory registration of all narcotic addicts is one of them. It is thought by some that its institution accompanied by some of the regulations, demands and identification procedures, is illegal and not within the administrative powers conferred by law, but this issue has never been raised in court.

There has been raised of late a demand for compulsory "hospitalization" of all

narcotic addicts. Hospital facilities humanely and scientifically employed are of course sadly needed for the care of some narcotic addicts, just as they are for sufferers from other diseases. "Hospitalization" as a slogan advanced as another panacea for the solution of the narcotic drug problem, however, betrays a sad want of familiarity with the facts and past history of hospitalization of addicts and its results. More hospital facilities are certainly to be encouraged, but it must be borne in mind that success in the handling of patients in those hospitals will depend upon the clinical understanding, ability and diligence of their medical and nursing staff. Some comments will be found on this point in my report of the previous year's experience in the Narcotic Wards of the Workhouse Hospital, Annual Report, Department of Correction, 1915.

We need to educate and train men and women to intelligently comprehend and handle addiction-disease, whether they happen to work in hospitals or in private practice, and the results of their efforts private or institutional will depend upon the personal equation of their ability and fitness for the work far more than upon the location of its performance. Let us not be distracted from this basic fact. A great many addicts have been seriously harmed by their hospital experiences in the past. The burden of proof must be upon the individual institution to show that its work is competent, and this cannot be done by mere statistics. Reports and announcements and statistics are far from convincing to the worker of long and varied experience. Those who make them may be perfectly honest in them and in their beliefs as to the good that they consider to have been accomplished, but so have been many others be-

fore them, whose premature deductions and conclusions and statements have turned out in the long run to be far from justified by actual results.

It is wise to go slow in this transitional stage of addiction conception and knowledge, to be tolerant of the opinions of others, and to recognize the problems of others.

Perhaps one of the most unfortunate factors in the failure to properly handle the narcotic situation has been the lack of a balance-wheel or touch-stone of commonly and generally accepted medical and scientific information as to the addiction condition. Medical opinion and medical conception of addiction is itself in a developmental stage. In other words, the medical attitude towards the drug addict is going thru the same process of development and struggle for domination by various conflicting beliefs and conceptions, as are the legislative and administrative. The medical profession has been experimenting with its panaceas thus marking its progress from a non-clinical conception of addiction as a "habit," to its appreciation of it as a physical disease, to be studied as are other diseases.

The stage of medical panaceas now probably nearing its close has witnessed the exploitation of various "specifics," "cures," "treatments" and "remedies," some of them based on useful clinical studies and observations, and showing on analysis a recognition of one or another of the fundamental facts or reactions or phenomena of addiction-disease recognized by some clinical student with attempt at wide application. It is very unfortunate that the observations and deductions leading to the clinical application of the various principles expressed by one or another of the

"cures," etc., were not announced to the profession with the same degree of efficiency as were the mere formulae or average procedures to which they were reduced. Some of these medical panaceas were honestly put forth with great expectation of their wide application in the solution of addiction. Each and all of them undoubtedly have proved useful and successful in some cases, just as any procedure will find a certain proportion of cases clinically suited to its application. That these "cures," "treatments" and "remedies" have not justified the advertising and other announcements of their supporters and advocates, the present situation amply demonstrates.

In some ways the very character of the publicity associated with some of the medical panaceas has played its part in the development of the present situation and in the spread of the condition. They advertised addiction in lay as well as in medical press—in the lay press making it and its handling a rather spectacular thing and tending to emphasize the so-called "drug evil" and "drug habit" rather than to show its clinical manifestations—in the medical press tending to distract from clinical study of the condition itself by advocating procedures to be more or less routinely followed and applied. Close study of the literature all thru this stage and for years back reveals a surprising amount of useful and suggestive material, clinical observations and appreciations made by individual students, not sufficiently influential or well enough known in the profession to cause their studies and announcements to become widely known or to be given consideration in works which have been accepted as authoritative. They, however, made many original and basic observations. With the ex-

ception of a very few, they are today practically unknown to the profession, the common fate of the pioneer. The medical profession is getting away from its panacea stage now, and medical literature is showing a very healthy reaction towards the clinical consideration of addiction as a clinical disease.

The changing of medical thought from its attitude in the past to the one which is now apparently coming with addiction recognized as a clinical entity, explains in part the past failure of representative medical organizations to competently and seriously consider and appreciate the situation in its medical aspects, or to act as a much needed factor either in the rational interpretation of conditions, or in the scientific determination and application of some of the issues involving medical practice in addiction-disease about which legislative and administrative activities have centered. It also explains in part the practical absence of available authoritative advice, information and protection to the honest practitioner of medicine who under present conditions is worried and handicapped, not only in his legitimate care of the addicted sufferer, but in many instances in his indicated employment of opiate medication in the many serious and important emergencies of his practice calling for such measures.

The medical organizations have been criticized as not representing the medical practitioner and his interests in the matter of addiction legislation and administration. Dr. William Rittenhouse of Chicago, in the August number of the *American Journal of Clinical Medicine* says, "Laws are being passed to which the profession is obliged to submit, and yet the rank and file, the great body of general practitioners, have

little opportunity of making their wishes felt in the drawing up of these laws. True the legislators will tell you that representatives of the medical profession are always permitted to present their views upon proposed legislation. But the main trouble is that these medical representatives are not really representative." He states that legislators would get a far better idea of public opinion upon proposed law from the practitioner of medicine than they would if they "merely listened to the arguments of this health official or that secretary of a medical society, no matter how well these may be prepared."

However true this may be in other lines of medical practice, in the history of addiction it has at times been the fact. It must be remembered, however, that the development of thought on addiction and change of medical views have been very rapid in the recent past, and that these are still in progress. Medical organizations, like other organized bodies, work thru their officers and heads of standing and other committees, who are the administrators of the organizations. Many of these men are specialists or engaged in lines of professional activity entirely dissociated from the clinical consideration of addiction-disease, so that they have practically no familiarity with it, nor with the difficulties and problems of the practitioner who meets it. They also have no interest in it as a personal problem of medical practice, and they are as prone to mistakes of judgment and decision as any other administrators who by force of circumstances have come into contact with a subject with which they are unfamiliar.

This is simply one of the manifestations of a transition stage of progress which affects the medical profession as well as

others. It is to be hoped, however, that it will not be too protracted, and that competent clinical information will soon be generally available from medical organizations, so that publicity may not be able much longer to unduly emphasize the misdeeds of a very few medical offenders and practically ignore the honest efforts of the mass of conscientious physicians who earnestly try to do their professional duty in the help and relief of sufferers from addiction. The present situation is not good for the reputation and standing of an honorable profession. Encouragement and help of the honest practitioner in the care of the honest and deserving narcotic addict, are considered by competent authorities, official as well as medical, to be two of the most desirable factors in the control of the narcotic drug problem, and they are not going to be furthered by announcements which may tend to the discredit of the profession, and the forcing of honest men from legitimate and much needed activity. In this connection I would again call attention to the recent Report of the Committee on Narcotics, of the Section on Food and Drugs of the American Public Health Association.

The great lesson to be learned from past experience and study of the addiction problem and its attendant and component details is that it is not going to be solved by any panacea, medical, legislative, administrative or otherwise. It cannot be handled successfully by emphasizing any of its aspects to the neglect and discouragement of legitimate activity and work in the others. Its solution is not going to be found in any sensational miracle of achievement nor accomplished in a spectacular manner, nor in any absurdly short space of time.

It is going to be finally controlled only by

real work and cooperation of all forces and activities available, legislators, administrators, medical practitioners and medical organizations, Boards of Health, hospitals, clinics, medical schools and laboratories, educators, etc., none trying to supersede the rest, each recognizing its own proper field of activity, with its opportunities and limitations. The situation is too big for any one line of approach to solve its problems or handle adequately its many phases. No one line of activity is going to solve it, and each worker must realize the problems and difficulties encountered by those in other lines, and be as cautious in criticism as he is ready to help. The sooner this is appreciated and all legitimate work encouraged the sooner will there be not only a check to the further development of the situation, but a beginning to remedy its conditions, especially those which have resulted from our past neglect.

The immediate need is education and the avoidance of further specifics and panaceas. There is no one of us who knows everything about addiction, and we are all going to need all possible information and help from every honest source. The real cultivation of the field of addiction study has only begun. We do not realize it perhaps, but we are just as much on trial with society and posterity for the sane and competent handling of the addict and the addiction situation, as the addict at present seems to be on trial for a rational and humane recognition of his condition. We must work together to make the judgment of our handling of the addiction situation a favorable one, realizing our past mistakes, and correlating and coordinating our future efforts.

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SYMPTOMS OF MORPHINE WITHDRAWAL IN AN INFANT.

BY

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The following case is reported as evidence that morphine addiction is a clinical entity and has a distinct pathologic process of its own.

The mother's history is as follows:

Age thirty-two. Married four years. First pregnancy.

Family History.—Negative.

Previous History.—Had all the ordinary diseases of childhood. No severe illness or operations.

Menstrual History.—Began at thirteen. Always regular but very severe pain during the day before and the first two days of the flow. When the menstruation first began the patient was given Tincture Opium Camphorata in doses of ten to fifteen minims for relief of pain. This was gradually increased until one or two drachms were taken each day of the period. Later she began to take codein and then gradually began using morphine. In a short time the patient found that she was unable to do without the morphine in the interval between the periods, thus her addiction to the drug was established.

Present History.—When she first consulted me, she was in her third month of pregnancy and taking between four and five grains of morphine sulphate daily. Her period of pregnancy was normal save for slight vomiting and a slight trace of albumin in the urine. Labor began at term and lasted twelve hours. The delivery was normal in the left occipital posterior position. During the labor it was necessary to increase the morphine to six grains. This administration of the drug had no effect on the character or frequency of the pains. The post-partum period was normal, the milk flow being established on the fourth day.

Infant's History.—Apparently normal male child weighing seven and one-half pounds. Cried well at birth. On the second day the child's condition became alarming without apparent cause. The pulse became weak and almost impercep-

tible; the skin was pale and bathed in cold perspiration; mucous membranes and extremities cyanotic; respirations rapid and shallow; vomiting and diarrhea marked, the child presented a clinical picture of distinct surgical shock. The routine measures for the treatment of shock were tried without response. In view of the fact that the mother was addicted to the use of morphine the child was given three minims of Tincture Opium Camphorata and repeated in one-half hour for three times. The effect was almost like magic. The pulse and circulation improved, the skin became warm, the cyanosis disappeared, the vomiting and diarrhea stopped. In fact in three or four hours the condition was very nearly normal. The condition appeared again on the third and fourth day, and at each time Tincture Opium Camphorata was given with the same results. After the milk came into the breasts, and the child began to nurse the condition did not reappear. The case was discharged from my care at the end of twenty-one days, both patients apparently well. Six months later I heard from the patient, she still continued using morphine, both she and the baby were in good health.

Deductions and Conclusions.

First.—Morphine or any other habit-forming drug should never be used except in the most urgent conditions and never administered in a chronic disease which is curable or can be treated by other means.

Second.—It was impossible for this child to develop a so-called morphine habit in two days of life. The condition which it presented was a clear-cut clinical one and one which was relieved only by one means, *i. e.*, the use of opium. Every drug addict presents the same clinical picture if the accustomed drug is suddenly withdrawn. The work of Dr. Bishop in his large clinical experience and also substantiated by the results of experiments on animals by French and Italian workers, proves that the "morphine dope," "the dope fiend," etc., are not merely a class of patients who have fallen into a bad habit, but are true clinical patients and have just as definite a pathologic process as the patient with typhoid fever or pulmonary tuberculosis.

The work of the more modern writers seems to indicate that there is gradually developed in the human as well as lower

animals, as a drug habit is acquired, a substance anti-toxic to the drug taken, but extremely toxic in itself, when not neutralized by the accustomed drug. It requires a certain amount of the drug to neutralize this toxic anti-toxin. When this certain amount is not obtained by the drug user the unneutralized anti-toxin produces the so-called symptoms of withdrawal. These symptoms are not caused by the lack of the accustomed drug but by the action of the un-neutralized anti-toxic body. The above child inherited from its mother's metabolism the anti-toxin against morphine, and when at the time of birth it was cut off from its supply of morphine, the anti-toxic substance was left unneutralized and produced the symptoms which only morphine could relieve. The child itself had never been given the drug but still its physical economy required it for its well-being and for the saving of its life.

Physicians and also the public must come to look upon the drug addict not as a person to be looked down upon, but in the light of a patient suffering with a definite disease process.

Syphilitic Dactylitis.—In most instances a syphilitic dactylitis will have its origin in the bone or periosteum, and only rarely does the process start in the adjacent soft parts, with later involvement of the bony structure. The pain of these syphilitic bone inflammations is not marked.—*Urologic & Cutaneous Review*.

To Remove Warts.—Paint the warts three times in one day with a saturated solution of salicylic acid in alcohol and the following morning cut them off with a flat, sharp steel instrument, beveled on one side only. This is painless, but it leaves a tiny bleeding point at the site of the wart. This, Dr. Charles (*Ind. British Med. Jour.*) immediately paints again with the salicylic solution, which is applied twice again the same day.

On the second morning the sites of the warts have small brown scabs, which are bathed once a day with pure alcohol till they drop off, leaving a healthy skin.



Pituitary Extract in Obstetrics.—The more advanced is gestation says M. Schwaab (*Med. Press and Circular*, Jan. 7, 1919), the more satisfactory is the action of pituitary extract on the uterus and during labor in proportion to the dilatation of the cervix. Its maximum efficacy corresponds to the period of expulsion. As a rule the contractions caused by its administration retain their physiologic character, the effect lasting usually about two hours.

Pituitary extract is indicated during labor whenever uterine contraction tends to fail; in other words, in presence of uterine inertia, or when, in the interest of either mother or child, it is desirable to hasten delivery.

When uterine inertia supervenes during the period of dilatation it often yields to pituitary extract, but the results are much more trustworthy in multipara than in primipara. In the primipara, when inertia supervenes at the onset of labor, the drug, as a rule, only gives a fugitive impulse to the contractions, and it is of least value in elderly primipara.

When uterine inertia coincides with premature rupture of the membranes pituitary extract usually acts satisfactorily and promptly. It seems to be of advantage in such case to give the extract as soon as possible after the discharge of the waters. The oxytocic action of the extract is well marked when dilatation is taking place slowly in consequence of a vicious presentation. Its action is less certain when inertia is due to twin pregnancy, owing, no doubt, to the distention of the uterine muscle. The pituitary treatment is clearly indicated when the pains tend to cease in presence of deformation of the pelvis. We are justified in giving it provided, of course, that the pelvis be not excessively narrowed—that is to say, provided the disproportion between the head and the passage be not too great.

It is during the process of expulsion that pituitary extract yields its maximum results.

Under its influence the contractions become sufficient to bring about the expulsion of the fetus. Its use is, therefore, indicated in prolongation of the period of expulsion, in non-rotation of posterior positions of the head, in vicious presentations (breech, face), and in slightly deformed pelvis. Its use often renders it possible to avoid recourse to forceps.

Some observers have turned the properties of pituitary extract to account in the treatment of placenta previa in order to hasten dilatation of the cervix after artificial rupture of the membranes. The indication exists more particularly in presence of lateral or marginal placenta previa.

While pituitary extract is so useful in the treatment of uterine inertia during labor, it is absolutely unsuitable for the purpose of provoking labor. At most is it permissible to make use of it as an adjuvant of mechanical means of inducing uterine contraction. Similarly, it has no effect in determining abortion, and this is common to it and other so-called abortifacients. Nor is its action more serviceable in hastening abortion when this is already started, or to assist in the expulsion of a placenta retained *in utero*. In these cases the uterine muscle is too feeble to be influenced by the drug.

In my opinion pituitary extract is not to be recommended during the period of expulsion of the placenta at term. Its effects are usually nil in cases of placental retention, due to uterine inertia without hemorrhage; indeed, the effect may be to cause contraction of the lower segment of the uterus, and so imprison the placenta. Even when retained placenta is associated with hemorrhage, the administration of pituitary extract is less trustworthy than other methods of treatment—massage, very hot injections, manual extraction with ergot thereafter.

In the Cæsarean operation, too, I think the action of ergot is superior to that of pituitary extract in provoking retraction of the organ. Lastly, there is one other distinct indication for the administration of pituitary extract—namely, in post partum retention of urine. In a large proportion of cases it has enabled us to dispense with catheterism.

Pituitary extract is very feebly toxic; at the same time it is well not to exceed from 20 to 40 centigrams at a dose. I have

never witnessed any untoward effects consequent upon the subcutaneous injection, but I cannot say the same of intravenous injections, which not only cause excitement, restlessness, delirium, nausea, vomiting, faintness, etc., but in respect of the fetus causes slowing of the pulse and a certain degree of apnea at birth. Heart disease, high blood pressure, arteriosclerosis and pronounced albuminuria in the mother are so many contraindications to the use of pituitary extract.

Associated Organotherapy.—Ferrer (*Medicina Ibera*, Sept. 7, 1919) discusses the advantages of combining certain inorganic drugs or organ extracts with other similar extracts. He warns that we must associate in this way only those drugs that have a stimulating action on glands. The combination of bromides and ovarian extract, of iron with extract of the corpora lutea and of calcium with thymus or other organ extract he regards as promising.

The Actions and Relations of the Parathyroids.—In his valuable article on the internal secretions Friedman (*Med. Record*, Dec. 6, 1919) points out that the parathyroids, four in number, should be considered separately from the thyroid. The upper are dorsal and above, the lower are more medially placed, but more outside the thyroid. Their removal causes tetany and other nervous phenomena, such as increased reflexes, spasms, stiffness, increased irritability of nerves, tachycardia, vomiting and diarrhea, wasting, loss of hair, failure of calcification of the growing incisors (enamel defects). The effect on the nervous system is on the lower motor neuron and is not removed by ablation of the cortex or section of the posterior nerve roots. In section of the cord, the symptoms disappear below the level of the section.

Some relief has been obtained in the case of these experimental animals by the injection of thyroid or parathyroid. One gland seems to be enough to prevent onset of symptoms, and homologous transplantation is also of service. Pregnancy and flesh diet favor the onset of tetany. The young seem

to suffer more from the removal. The parathyroids are antagonistic to the thyroid. Tetany occurs in pregnancy, in acute infections, in the new born and in some gastric cases. Thomsen's disease, paralysis agitan, chorea, epilepsy and eclampsia were said to be due to the disease or deficient activity of these organs. The secretion is said to be increased in myatonia and myasthenia gravis. The changes in the hair and the nails, the bones and the teeth which occur after parathyroidectomy are said to be due to altered metabolism, especially of calcium (increased excretion). The effects of injection of the parathyroids have not been adequately studied.

The nature and the mode of action of the parathyroid substances are also not definitely known. The active principle has not yet been isolated. It seems to inhibit the excitability of the nerve cell. The parathyroids are supposed to be detoxicating organs. The deficiency symptoms are not removed by oral feeding, and implantation also has not been successful.

The work of Erdheim abroad and that of MacCallum and Voegtlin in this country have added greatly to our knowledge of this organ. A parathyroidectomized animal loses its calcium rapidly. The parathyroids seem to favor calcium retention. Tetania parathyreopriva can be ameliorated by the administration *per os*, subcutaneously and intravenously of calcium salts. MacCallum and Voegtlin used the acetate and lactate of calcium. They found the injection of the gland extract also of value, leading to increased calcium content of the blood. The results, however, are not permanent, and it might be that the calcium simply acts as an antispasmodic. Administration of thyroid seems to be beneficial in some cases.

Ureteral Stone and Stricture.—From the history alone one cannot differentiate between utereral stricture and calculus. Hunner, in the *N. Y. State Journal of Medicine*. Given the typical history with which we have been taught to associate the diagnosis of ureteral stone, and without further data it is about as safe to make a diagnosis of stricture as of calculus, because stricture is by far the more common disease.



Physical Therapy

The Physiotherapeutic Treatment of Fibrositis.—In the treatment of this affection there are two general problems: *First*, to improve the general condition of the bilm; *second*, to overcome the various pathologic changes that have taken place. Capt. Deering (*Amer. Jour. of Electrotherapeutics and Radiology*, Oct., 1919) says a clear statement of the best physiotherapeutic treatment for joint fibrosis is not easy. They are difficult cases, especially where the finger joints are involved. Best results cannot, in most cases, be obtained by physiotherapeutic measures alone. Manipulation under an anesthetic putting every joint once thru its full range of motion including twisting may be practiced. Of course care and skill is necessary both in the operation and in the selection of cases. Such manipulation should be followed, while the patient is still under the anesthetic, by gentle massage, and should be preceded when practicable by some form of heat. The fingers should be immediately put in full flexion. Gentle massage by a skillful operator should be used two or three times on the day of the manipulation and once or twice daily thereafter. Passive motion begins after 24 hours. Details of the physiotherapeutic after-treatment depend on the case itself. Careful selection of cases for manipulation as for any other treatment is or course essential.

Without going too much into detail, the second and most commonly used method of treating fibrous changes in the fingers, especially that form seen in median, and median and ulna paralysis, is as follows:

A traction splint is adjusted to the fingers. It should be of such a nature and so adjusted that constant traction with very gradual flexion is possible. There are several such splints, the choice depends on the preference of the orthopedist and the nature of the case.

The details of the physiotherapeutic treatment depend on the case itself, but there are certain general principles that must be followed.

First: The parts should be heated thoroughly before any manipulation or electrical treatment.

Second: In flexing movements there must also be traction. This is especially true when attempts are made to stretch the shortened capsule.

Third: Massage and passive, assistive, and resistive exercises are used in every case.

Fourth: The vibrator should be used for two reasons: (1) It enables a greater amount of flexion without pain; (2) it gives an active massage to the joint capsule when the capsule is under tension. It is in this class of cases that we would consider the chemical effect of the electric current. Salicylic or chlorine ionization with a current of 40 to 90 maximum for 30 to 45 minimum may be of value, especially where there is marked tenderness, or for its effect in softening tissues. A lesser amount of current strength or a shorter time would probably prove useless. To use such a current for so long a time requires a very perfect technic and apparatus in perfect condition.

The benefit from such a treatment would be derived in two ways:

First: From the salicylate or chlorine driven into the tissues.

Second: From the marked active hyperemia that is produced by such a current acting for such a length of time.

Treatment of the muscles above the injury by heat, massage and exercises and by faradism as advised by Bristow or by slow sinusoidal, do much to prevent atrophy and restore the muscle tone when it is lost. With normal muscles and a normal blood supply above the injury it is reasonable to suppose that metabolism and nutrition will be better in the affected part of the limb than in those cases where the muscles are allowed to atrophy and the blood supply to be reduced to a minimum.

A final point is in regard to early splinting of median and ulna cases. This perhaps more directly concerns the orthopedist than those of us interested in physiotherapy or nerve surgery. Certain ulna and median cases that recover have hyperextension at the metacarpophalangeal joints when at rest. It would seem that early splinting might shorten the after-treatment and make the final result better.

SUMMARY.

1. In treating fibrosis by physiotherapy we use three classes of electrical applications: (1) heat, (2) mechanical, (3) chemical.

2. The first aim is to improve the general condition of the part treated.

3. This is accomplished by means that promote circulation and nutrition.

4. The treatment of the local pathologic conditions caused by fibrous infiltration and degeneration depends on the anatomy, physiology and pathology of the part affected.

5. In many cases both physiotherapeutic and orthopedic treatment are necessary for the best results.

Treatment of Tuberculous Abscess By Aspiration.

—Given early diagnosis, treatment by aspiration will frequently arrest the course of a tuberculous abscess and effects a complete cure, so states Fernandez in the *Lancet* (Dec. 27, 1919). Delay in diagnosis and treatment by incision not infrequently ends in disaster. French authorities quoted by Gauvain maintain that 50 per cent. of patients with spinal abscesses treated by incision end in sinus formation, and that 70 per cent. of cases of sinus formation in spinal disease die. In cases treated by aspiration the result has been more satisfactory in a shorter period.

In all cases the general treatment has been carried under sanatorium conditions on conservative lines. In aspiration a stout needle with a good bore is essential; one also avoids inflamed area and prefers an oblique puncture. An attempt should be made to arrest an abscess without modifying fluid. In some of the cases simple aspiration has been found effective. A great many diluents have been advocated—trypsin, lactic acid, bipp, cinnamic acid, essential oils like garlic, cajuput. Personal experience of the nature of the abscess will be an asset in the choice. Saline, iodine, colloidal solutions have also been used. In certain types solution of ether, camphor, and thymol, first advocated by Menard, Koch and Risacher, and followed by Gauvain, has been found effective.

The conclusion reached from the consecutive cases was that sinus formation fre-

quently follows incision, while it is an exception in the aspiration method. The mortality and the time factor in the former also do not compare favorably. In pulmonary cases avoiding anesthesia is an additional advantage. With early diagnosis and efficient continued aspiration tuberculous abscess is arrested sooner than by incision, and complication prevented. In the *Lancet* of December 21, 1912, Openshaw and Roth in treatment of Pott's disease by conservative method preferred aspiration to incision. In certain cases they found arrest was secured by non-interference.



The Evolution of the Undertaker.—

There are few callings that have undergone such a radical and dramatic change as that of the undertaker in recent years. It must have impressed many observers that the old, conventional, sombre, almost lugubrious figure, garbed in unrelieved black, has given place to one that is gay, blithe, sociable, humorous, well-dressed, almost debonair. The undertaker of today is a man of the world, a dinner-guest, a companion, a hail-fellow-well-met. He is given to post-prandial speeches, to swapping a Roland for an Oliver, to taking tea (until recently he did not pause at stronger stuff) and to wearing his evening clothes with a style that would do justice to an advertising illustration. He has become prosperous, he has syndicated himself, he has even attained a considerable degree of popularity and he has succeeded in doing so because he has made his business more popular. He has taken the sting out of death, he has made it a gay, almost trivial thing. He has made jokes about it, smiled at it, and has taught people to make jokes and smile. He has become a social figure. Recently a Jersey undertaker, in a newspaper advertisement, invited the public to make more frequent use of his superb establishment. Once upon a time this would have been regarded as grim humor. Now it is taken in good part and it is more than likely that the pub-

lic will avail itself of the generous invitation. Another undertaker, finding himself overwhelmed with business, has seen fit to add a publicity manager to his staff. This publicity manager's duty is to make death more popular, and many regard him as a success. Certainly his employer does, for he is under contract at a generous salary. This man is a humorist, a writer of quality, a student of human nature, a scholar and a wit. At a recent dinner, his speech was considered the most humorous and successful of the evening. He spoke of his calling with the pride of an artist and he told of an incident in the pursuit of his trade which brought the house down. One day he received a call from a hotel and he immediately dispatched two men to attend to it. They found the man with a gas tube in his mouth. They opened the windows and applied a pulmotor, miraculously saving the man's life. Soon after they came back and reported. They were fired at once. "Thereafter," concluded the speaker, "I made it a point to send my men half an hour late to every call." The mortals who heard the story applauded vigorously and enthusiastically. It is no mean achievement to make death such a light and humorous incident. The modern undertaker is a genius. Some day his genius will win the recognition it so amply merits.

Insanity and the War.—Dr. Britton D. Evans, medical director of the Morris Plains State Hospital, in a report made public recently, gives an interesting explanation for the reduction in the number of patients admitted to the hospital in 1917 and 1918. At the same time he issues a warning regarding an imminent increase in the number of psychopathic cases that appear in the near future. Accounting for the reduction in cases in the last two years, Dr. Britton explains that many persons of constitutional psychopathic make-up, more sensitive than the average to the lure and excitement of war, were the first to volunteer under the stress of the emotional days of April, 1917, when war was declared. Others deliberately entered the service, aware of their defects and feeling that the discipline and rugged life of the army would help them. Among these Dr. Britton in-

cludes the inebriates and drug addicts, who had long lost control of themselves and sought relief in this way. Further, many hysterical and neuresthenic types find an excellent outlet for their various neuroses in the intense emotions that the war aroused as well as the numerous activities, such as social service and community activities, which were made accessible. Now that the war is over, in the view of Dr. Britton, there will be an increase in the insanity figures thruout the country. The emotions of war having disappeared, and the other activities with them, these types will no longer have a legitimate outlet and will succumb once more to old practices. The strain of readjustment to normal conditions will prove trying to many. "Under this stress," concludes Dr. Britton, "and removed from the stimulus of war, a great many of the psychopathic individuals will probably again become morbid in their line of thought. There is accordingly every reason to believe that the next twelve months will see a marked increase in mental diseases and in commitments to institutions, and some provisions should be made immediately for this extra burden of our already overcrowded state hospitals." Dr. Britton's warning is a timely one and his logic is convincing, but it is hardly likely that it will move those in authority to take measures to meet the situation. It is a tradition among the powers to act after the fact and not before, and it is only when they find themselves overwhelmed by a situation about which they have been properly warned that they will begin, and then only reluctantly, to adopt measures to combat them. This has always been the rule and it will be the rule in this instance, without doubt. The pity of it is that such neglect, culpable as it is and often disastrous in its consequences, is not regarded as a criminal offense. Dr. Britton has fulfilled his duty in calling attention to the situation. It is now the duty of the various communities to see that their representatives take steps to meet it adequately.

Music and Insanity.—A conference of physicians, nurses and laymen was held recently in New York to promote and encourage the employment of music in the

treatment of nervous and "other bodily ailments." What the "other bodily ailments" are which can be helped by music were not specifically mentioned and it is rather difficult to imagine what they might be. But that music is a great help in nervous cases has long been a commonplace among the profession. In other respects, chiefly in convalescence, music has proved valuable chiefly as a diversion rather than a cure. Most insane asylums under the direction of the state have their orchestras, which give regular concerts for the inmates and these concerts are regarded as valuable aids in the treatment of cases. Musical entertainment has also proved of great value to sick and wounded soldiers at base hospitals. Dr. Siegfried Block, neurologic expert at Bellevue Hospital, told of instances within his own experience where music had been of inestimable value in allaying nervous disorders and "other diseases." That music has been useful in the treatment of "other diseases" there is as yet little evidence. The purpose of the conference was to encourage a study of the problem, collect data and arouse a keener interest in the medical profession. The subject is hardly a new one, but if data can be collected to prove that music is helpful in the treatment of the "other diseases" so vaguely referred to, no one would be more pleased to hear of it than the medical profession. Contrary to the belief expressed at the conference that doctors are slow to adopt innovations, it is safe to predict that, if the case for music is clearly established, every physician will add a victrola to his office equipment without hesitation.

Awakening of the Public to the Real Problem of Drug Addiction.—One of the gratifying signs of the times is the gradual but none the less certain awakening of intelligent and humane people to the fact that drug addiction is not merely a voluntary surrender to morbid desires or vicious tendencies, nor yet an evidence of mental degeneration, but that it is indeed a true physical disease with as definite a pathology as any other condition of disordered or perverted physiology. A good many crude and mistaken views still exist in respect to narcotic drug addiction, but every now and then some article will appear in a lay publica-

tion which will show the extent to which the true situation is being recognized and its needs appreciated. A particularly noteworthy article of this character appeared in the November, 1919, issue of the *Delineator*. While written in more or less sensational language, as lay articles so often are, the author, Miss Carolyn Van Blarcom, deserves great credit for her grasp of the problem and keen realization of its humanitarian phases. Some of Miss Van Blarcom's references to the medical profession are not pretty, and while unquestionably deserved in some instances, we strenuously protest at the stigmatization of the whole profession. Doctors are human and subject to the same influences that other people are. If medical men have been loath to give drug addiction the attention it should have had, this can be largely attributed to the attitude of the public—faddists, erstwhile reformers and propagandists in particular—to the problem. People have refused to patronize a doctor who paid any attention to drug addicts. As a matter of self-preservation, in order to make a living, and to support their families, many medical men have had to avoid a class of patients that the people have declared taboo. Enlightened as Miss Van Blarcom has become, and as fine work as she is doing, we warrant she entertained entirely different views concerning drug addiction until some good, intelligent and humane doctor enabled her to see narcotic drug addiction in its proper light.

In all sincerity, therefore, we say that the great duty rests on the people. Let them learn the truth and realize that drug addiction is a true disease, a sad and serious affliction that calls for as sympathetic and kindly consideration as any other human ill, and there will be no reason to complain at the lack of professional interest.

In spite of her criticisms of the medical profession, Miss Van Blarcom's article is excellent and one that cannot help but do a world of good. It is to be hoped that with her comprehension of the fundamental details of the problem she will not stop here, but will continue to spread the truth not only in regard to the real nature of drug addiction, but also the urgent need for seeking its solution in a broad and sympathetic spirit, never forgetting that the drug addict is a victim of circumstances, a sufferer from a real bodily affliction, and not a panderer

to morbid desires or a vicious sensualism.

We wish we could print Miss Van Blarcom's article in its entirety, but lack of space prevents us from doing so. The concluding portion is such a splendid exposition of the situation and sums up the need of the hour so sententiously that we feel it a duty to reproduce it. Miss Van Blarcom depicts the suffering drug addicts undergo, recites special instances of the innocent acquirement of the disease and shows how far afield most people are in their understanding of what narcotic drug addiction really is. In referring to the development of the disease in the individual she says:

"The existence of addiction in childhood may not be suspected, even by the individual himself, until an operation or painful illness later in life makes the use of an opiate necessary. This is the match that lights up the whole trouble. When its effect wears off the victim finds himself suffering the usual withdrawal symptoms.

Cases of this kind are frequently baffling to physicians who are unfamiliar with the withdrawal symptoms of addiction disease.

A distressing case of addiction begun in infancy is that of one of the most brilliantly successful surgeons in this country; in fact, an operator of international fame. He has been a secret addict thruout a long, useful life.

He says that he was made an addict by the paregoric his mother gave him when he was a baby. As a little boy at school he remembers that he was excessively nervous and that his mother quieted and steadied him by giving more paregoric.

She was like the doctor who did not know what else to do but keep on. And so it went. He could work only when he had his drug.

He is not an isolated experience. There are many like him in all walks of life.

Another case is that of a nineteen-year-old boy who is the sole support of his widowed mother and her three grandchildren.

Made an addict in infancy, he is now so dependant upon heroin that he could not work without it. His weekly allotment of heroin costs him about seven dollars.

In order to make enough money to make both ends meet, he is compelled to work overtime steadily. By lengthening his working day to sixteen hours he is able to earn twenty-one dollars per week. And so he struggles, whipped on by his need of the drug and his dependents' need of food. He is on the verge of a nervous collapse but dares not stop.

There is no place open to him for treatment, such as he would have for any other disease.

Lack of medical help and the difficulty of getting opiate drugs thru legitimate channels is driving many decent addicts into the underworld for their supply, where they are charged exorbitant prices.

"What is to be done?" do you ask as you mentally hold your hands over your eyes.

The remedy is summed up in one master word: 'Education'.

Education of the entire public concerning the causes and results of drug addiction; and the danger of taking any sedatives frequently or over a prolonged period.

Education that will show young girls the peril of associating with those who use drugs, particularly heroin and cocaine.

Education of the medical profession. This profession as a body has so far showed itself incapable of coping with the misery which has largely grown out of its own inefficiency.

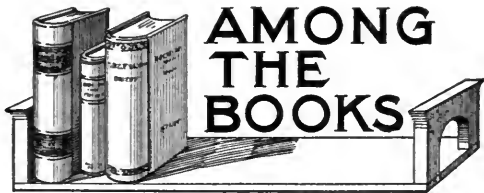
Most of the special institutions for so-called 'drug cures' are utterly ineffective, for cures are rarely effected within them. Far too many of the 'cured' patients leave the institution with but one possession—drug addiction. Money and hope of relief are gone.

More scientific knowledge is needed; more human understanding and with these will come compassion.

Education then let us have, so widespread and far reaching, that there will be no longer an uninformed public to stigmatize innocent sufferers of drug addiction.

A complete rending of the black curtain of ignorance and misunderstanding!

'More Light! More Light!'



Mental Hygiene.—The growing interest in mental hygiene carries with it the necessity for a wider understanding of mental processes. This involves an appreciation of the psychologic processes involved in existence. Too frequently emphasis is laid upon intellectual developments with great consideration of the conditions constituting feeble mindedness.

The understanding of human conduct with an appreciation of motives and actions demands a practical viewpoint free from much of the worrisome symbolism that pervades recent texts. For this reason *Psychology of the Normal and Subnormal*, by Henry H. Goddard, (Dodd, Mead & Co.), is a book of unusual value that commends itself because of its recognition of the unity of the human mind. The discussions of the development of the nervous system and the beginnings of mind lead to a discussion of the higher mental processes. The affective phases of experience extend into a consideration of the primary and complex emotions as a preliminary to the consideration of the numerous elements entering into thought. Involving perception, judgment and reasoning. Action, habits and temperament are discussed with reference to volition and social adaptation.

The second part of the book is devoted to a

consideration of the application of the theories and the determination of levels of intelligence as well as the inter-relation between intelligence and emotion.

Thruout the volume there is evidenced a clear and single viewpoint which enables Dr. Goddard to present his subject matter with a most valuable degree of definiteness and conciseness. The merit of his book lies in its all pervading rational and non-fanatical psychologic unity.

Methods of Mental Examination.—In the consideration of methods of testing mentality, it is necessary to possess a definite working plan. S. I. Franz in his *Hand Book of Mental Examination Methods*, (The Macmillan Company), offers a practical, systematic and scientific exposition of the methods of mental examinations which have proven of value in connection with service at the Government Hospital for the Insane. A large degree of the value of this book lies in its selective character, in that many methods have been omitted because of difficulties and complexities involving time and special apparatus. The gamut of methods is sufficiently large to permit of the study of sensation, movement, attention, perception, memory and association with a determination of general intelligence and a broad understanding of the complex physical, neurologic, mental and social characteristics of patients.

These two volumes referred to constitute a valuable contribution to a type of literature for which there is an increasing need and which should commend itself to physicians who desire to keep abreast of the developments in modern psychiatry, and of the fundamentals of the movement for improved mental hygiene.

Social Work.—The tendencies of medicine to take on a larger measure of sociologic importance require a closer relation between the general practitioner and social workers. The frequency with which medico-social diagnoses are demanded indicates the growing importance of this phase of modern medicine. Cabot in *Social Work, Essays on the Meeting-Ground and Social Worker*, (Houghton Mifflin Company, Price \$3.00), presents the substance of some lectures given by him at the Sorbonne during 1918, that serve as an excellent outline of the field of work, and the part it plays in the every-day investigation and treatment of the frailties and ailments of suffering humanity. The point of view which he has presented is what might be termed the human element in medicine. He deals with the physical status of individuals; but he looks beyond their individual existence to their conditions that have arisen as the result of interacting social and economic forces. He views the individual as a unit and as part of the family and community capable of having the current of his life deflected by forces not of his own selection, because of which, he cannot be held wholly responsible for them.

Those who would understand the tremendous influences constantly working to effect abnormalities must seek to ascertain their whence and why. This is by no means as simple as it sounds, and for this reason great benefits are to be secured thru the assistance of a person trained as a social investigator. The aim of social medicine is to secure an adequate treatment of the individual, rather than to rest satisfied with the treatment of the disease. The mere relief of pain may in itself constitute a result satisfactory to a physician or a patient, but it fails to measure up to the highest ideals of medico-social practice. In order to appreciate not merely the foreground of medical work, but the background, it is essential to trace all the processes involved in establishing the personality and the physical condition of the patient.

Cabot remarks that social treatment seeks to give pleasure, beauty, money, information, education, courage, and to help build the power to get more of it. To many, this may seem remote from the ordinary theory of medical practice, but it represents some of the underlying items most effective in creating and maintaining personal health, capability, and contentment. Medical social practice demands more than the giving of pills and powders. It demands ministration to the whole being. In order to secure the data essential, tremendous advantages are to be derived thru the employment of a social assistant, whose time, efforts, and thought are to be devoted to securing the diagnostic items which are beyond the ken and scope of effort of the physician. Only by a combination of the medical and the social facts is it possible to arrive at a plan of action suitable for achieving a cure in its fullest sense.

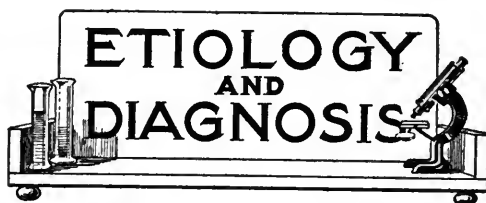
Written in Cabot's direct, honest, and powerful manner, *Social Work* carries conviction, gives much food for thought, and arouses a healthy interest in practice along lines that are historic and prophetic.

The "Wellcome" Photographic Exposure Record and Diary.—On opening the 1920 issue of the U. S. A. Edition of this pocket annual, which has become the recognized reference book for the majority of amateur photographers thruout the world, we note that the frontispiece is a photograph by an American worker, Mr. Arthur W. Carpenter, Field Director of the Harvard University Central American Expedition. This picture, which is notably good in technic, was taken and developed under circumstances of exceptional difficulty in the jungles of Central America. It certainly affords an excellent example of the character of the work obtainable by following the lucid instructions on exposure and development which are features of the publication.

The opening sentence of the book, "The Key-stones of photography are—correct exposure, correct development, and the ability to make a good print", sums up good technic in a minimum of words, and we know of no publication which points out the road to success so succinctly and so plainly as this admirable guide book.

All its good features are retained including the improved Exposure Calculator which, by the simple movement of a single scale, settles the difficult question of exposure in a manner which thousands of photographers find the most satisfactory of any.

The list of plates and films is longer than ever and has been brought up to date by independent tests so as to prove an infallible guide to the relative exposure each variety requires.



A Diagnosis of Tuberculosis.—Boswell, in the *Southern Medical Journal*, June, 1919, emphasizes the importance of the outlining of a method "which will help to make a fairly early diagnosis, ideally in its incipency." The usual cases are diagnosed in the advanced or moderately advanced stage. The average physician, in his rush, usually overlooks findings that are common in the incipient stage. Dr. Boswell suggests the following outline of work. The physician should remember that the disease is universally prevalent, that a careful history taking as well as a careful physical examination is important. This should be followed by biologic tests and laboratory findings, including the X-ray. After discussing the various phases of the subject the author concludes that with the almost universal prevalence before us, a history of prolonged exposure, with previous disease, overwork or dissipation to drag down the resistance, a history of malaise, insomnia, nervous irritability, aching, chest pain, neck pain, slight cough, a physical examination showing chest changes, especially râles, prolonged expiratory murmur, increased voice sounds, variable temperature, increased pulse rate and low blood pressure, one is justified in making a diagnosis of pulmonary tuberculosis.

Acute Unilateral Hematogenous Nephritis.—Acute unilateral hematogenous nephritis is, as its name implies, an acute septic blood-borne infection deposited in one kidney, the exciting cause being one of the pyogenic organisms.

Pre-Operative and Post-Operative Blood Pressures.—After a long series of studies on blood pressures, taken before, during and after major operations, Polak (*American Journal of Obstetrics*, Aug., 1919) presents the following conclusions:

1. That the pulse pressure is the test of the muscular strength of the individual woman's

heart, when endocardial lesions can be excluded. The index of the muscle competency is shown by the relation of the pulse pressure to the systolic pressure which should be 1 to 3 or more, if the compensation is adequate.

2. That the efficiency of the kidney function is directly dependent upon the cardiac force of the individual, provided the kidney structures are normal or approximate the normal.

3. That ether anesthesia of an hour does not disturb the relation of the pulse pressure to kidney function, unless the operation is accompanied by considerable loss of blood.

4. That when the pre-operative kidney function is low, the pulse pressure must be relatively high, to compensate for the deficiency, for it does no good to add saline solution by skin or bowel, or by infusion, unless there is sufficient cardiac strength to take it up and carry the column along.

5. When both the pulse pressure and the "phthalein" output are low, or the relation of the pulse pressure to the systolic pressure is as 1 to 2, the operative prognosis should be guarded.

6. That morphine, in large doses, used during operation, seems to help in diminishing the shock, but has a definite effect in diminishing the kidney output.

7. In the majority of cases there is a moderate fall in both the systolic and diastolic blood pressure, following ether anesthesia, the inhalation of oxygen after the withdrawal of the ether diminishes this fall, but its effect is only transient.

8. In cases of shock, especially where there has been much blood lost during the operation, the fall in systolic pressure is greater than after a long operation without blood loss.

9. The pulse pressure is a better index of hemorrhage or cardiac failure than the systolic pressure and, finally, there is a constant rise in the leucocyte count in the presence of actual hemorrhage, while the leucocytes fall in shock.

Cerebrospinal Fever.—In this country our unpreparedness for war and the necessity for rapidly raising large armies led to overcrowding of the inadequate available barracks and depots. Sir Humphrey Rolleston (*Archives of Diagnosis*, July, 1919) says that overcrowding is well recognized as an important factor in the etiology of cerebrospinal fever and exerts its influence in several ways: it impairs the general health, favors the occurrence of various infections, especially influenza and catarrhal infections of the throat and upper respiratory passages, which may dispose to meningococcic invasion, and greatly increase the carrier-rate among the occupants of the crowded rooms.

Fatigue is a factor of importance in causing outbreaks of the disease, and together with want of sleep and exposure reduces the bodily resistance and so opens the way to infection. Dopter quotes a remarkable incident from the Versailles epidemic of 1839, during which out of a detachment of 153 recruits 79 developed the

disease after a fatiguing march. He also refers to the increased frequency and mortality of the disease among recruits after forced marches during the European War, and points out that recruits suffer much more on account of their lack of training than soldiers of two or three years' service, tho of the same age. Examination of the notes of naval cases shows that in a number of cases the disease began shortly after going on leave or returning to barracks; the fatigue of the journey may have played a causal part.



Cure of Multiple Warts on the Face.—Charles Ind (*British Medical Journal*, July 5, 1919) says that the removal of these tiny warts is often very difficult and he records a case in which all of the usual methods of treatment were applied for long periods of time without the least benefit. Finally, the patient was promptly cured by the following simple combination of methods: The warts were painted three times a day for one day with a saturated solution of salicylic acid in alcohol and on the following morning they were cut off by means of a flat, sharp steel instrument, beveled on one side only. This procedure was entirely painless and left a slightly bleeding point at the site of each wart. The surface was immediately painted with the salicylic acid solution and this was repeated twice on the same day. This left small brown scabs, which were bathed once daily with pure alcohol until they dropped off, leaving a perfectly smooth, healthy skin surface.

Don'ts in the Treatment of Diabetes.—Densten in his interesting article on diabetes (*New York Med. Jour.*, Oct. 11, 1919), gives the following don'ts:

Don't disturb the regimen of a diabetic by absolute withdrawal of the carbohydrates.

Don't treat too strenuously a diabetic passing less than two per cent. of sugar.

Don't pronounce to be diabetes mellitus every case in which sugar presents itself in the urine. There are pseudodiabetics, passing sugar today and none tomorrow, and often alternating with albumin.

Don't fail to add alcohol in some form to the daily regimen of a diabetic who continues to pass over two per cent. of sugar or continues to lose weight.

Don't fail in your endeavor to discover the etiology of the symptom of diabetes mellitus.

Don't fail to push the specific remedies indi-

cated, when the cause has been discovered, and don't pay too much attention to curing the diabetic complications. When the cause has been removed or cured, the effect or symptoms will cease.

Don't think to benefit permanently a diabetic by diagnosing and treating the microscopic evidences as a disease *per se*. The etiology always lies beyond somatic and microscopic evidence. Microscopy will, in the majority of cases, make your diagnosis secure and the etiology plain.

Don't attempt the practice of medicine without a working knowledge of the microscope. Without such knowledge a medical practitioner must depend too much on guesswork. It is the positiveness of one's diagnosis which alone renders positive treatment available and insures successful cures by the application of positive therapy.

Don't fail to support the musculature of a diabetic and especially the heart. Strychnine sulphate (notwithstanding the contradictions of many) will be found sufficient, but must be administered in large doses. Not less ever to an adult than one twentieth of a grain three times a day. Strychnine is not cumulative. Its physiologic maximum effect is reached two hours after administration and may be continued for months. It is a nitrogenized food and also carries the carbohydrate radicle, presenting the formula $C_{21}H_{22}N_2O_2 \cdot 2H_2SO_4 \cdot 5H_2O$. It also contains sulphur.

Don't forget that diabetes mellitus may be the result of congenital as well as acquired syphilis.

Non-Operative Treatment of Piles.—Katzoff (*N. Y. Med. Jour.*, Dec. 21, 1918) injects into each pile one or two drops of a mixture of carbolic acid and salicylic acid, of each $1\frac{1}{2}$ drams; sodium bichlorate, 1 dram; glycerin (sterilized) sufficient to make 1 oz. After the injection a tannic acid, belladonna or stramonium ointment is applied around the parts and followed by reduction within the sphincter. A few other simple methods employed are: 1. Make a thin paste of raw linseed oil and pure white lead that shall be as thin as cream in consistency; anoint the parts, when protruding, twice daily. 2. Equal parts by weight of tannin and glycerin. Anoint once, and in severe cases twice daily. 3. The simple remedy, common table salt, is one that is unsurpassed for bleeding piles. 4. Heat a tablespoonful of lard to the consistency of ordinary cream, and to this add about half a teaspoonful of calomel; mix thoroughly and apply twice daily.

Treatment of Peptic Ulcer.—A critical study of the literature of the medical treatment of peptic ulcer, particularly the rest and diet cures, Blumer says, in a recent issue of the *Johns Hopkins Bulletin*, suggests certain conclusions. It seems safe to assume that certain

types of peptic ulcer show a strong natural tendency to heal if given a fair chance. Ulcers near the pylorus tend to heal badly, while bleeding ulcers, for reasons not entirely clear, seem to heal unusually well. Many ulcers would doubtless heal on the all-important complete rest, plus any of the dietary régimes that have been discussed. Others would equally certainly fail to heal under any form of medical treatment. Originators of diets are apt to adhere too closely to those diets, and tend to become prejudiced against different, but equally efficacious ones. The practitioner, whose sole purpose is to cure his patients and who need not be distracted from this by attempts to glorify the products of his own cortical cells, should realize that there are good points in all of the diets presented. Each has its advantages and each its drawbacks, and the wise physician is he who will use them as frameworks to be clothed with a dietary structure suitable to the needs of each individual patient.

Treatment of Infected Bone Wounds.—Cotton, in *The Boston Medical and Surgical Journal* (Sept. 25, 1919), presents a series of cases of bone infections studied at U. S. A. General Hospital No. 10, from which he draws a very hopeful outlook for the ultimate cure of all such cases in the future. The essential factor in the treatment is "antiseptics," preferably by means of the Carrel-Dakin technic. There were 346 cases admitted, with 182 operations. There were only two amputations, one for a hopeless crushing of the knee, the other for a limb rendered worthless by paralysis. There were no cases of secondary osteomyelitis after cleaning operations. The operations consisted, as a rule, of removal of sequestra, and opening of the wound so as to permit thoro irrigation with Dakin's solution. Occasionally large bone cavities were sterilized with 95 per cent. carbolic acid and filled with bone wax. The results in these cases were also good. Or wax may be used after sterilization by the Carrel-Dakin method.

Duodenal Ulcer: Medical Treatment.—Foxworthy (*Jour. Indiana State Med. Asso.*, Aug., 1919) describes the dietetic treatment of duodenal ulcer, dividing the treatment into five stages as follow: (1) The nutrient enema period, lasting from four to seven days. This should be begun at once after diagnosis, or following hemorrhage. (2) The liquid, or albumin water period, from one to two weeks, commencing with the whites of two eggs in water every three hours and increasing gradually. Cream is used when eggs do not agree. (3) The semi-liquid period, one week, in which the regular feedings of albumin water are kept up, substituting for certain feedings such food as creamed toast, potato soup, or purees. (4) The semi-solid period, lasting one week, during which oatmeal, mashed potatoes, tapioca, custards, soft boiled or soft poached eggs are added

to the dietary. During this period albumin water may be safely withdrawn, altho at any indication of recurrence the diet should drop back to the diet of the second period—albumin water only. (5) The solid food period, broiled meat patties, the meat, lean only, ground very fine, broiled squab, breast of chicken minced, following which the patient should be able to take the ordinary diet for ambulatory ulcer patients, which is a maximum of albumins and a minimum of starches and sugars.

Preventive Treatment of Gall Stone Disease.—Laveson (*Med. Brief*, Jan., 1920) says that a regular and well-ordered life should be carefully mapped out for each patient, going into the minutest details, and the following requirements should be clearly explained:

1. A regular time and a sufficient number of hours for sleep is necessary.
2. A daily systematic evacuation of the bowels after breakfast.
3. Elimination of all sources of mental and physical fatigue and worry.
4. Pleasing daily recreation is essential.
5. Proper bath.
6. Rest periods are now considered by all clinicians the *sine qua non*.
7. Proper exercise. Most of the patients are greatly benefited by a well-regulated system of exercises in the open air. It should be varied as much as possible to exercise the different organs of the body as well as the superficial muscles. Strenuous exercises and competitive tests should be tabooed.

8. Proper attention should be given to the diet. The following table is useful:

Breakfast—Fruit. Eggs, soft boiled or poached. Fish, bass, pickerel, scallops. Fish cakes. One medium-sized baked potato. Two thin slices of dry toast with a little butter, only when eggs are taken. One cup of coffee or tea without cream or sugar, or one glass of milk.

Luncheon—Thin soups, consomme, strained chicken gumbo or purees made with vegetables and separated milk. Vegetables, potatoes (boiled, baked or mashed). One glass of water.

Dinner—Soups when not taken for luncheon. Meats, chicken, one lamb or veal chop. Vegetables, potatoes (boiled, mashed or baked). One cup of tea.

Drink six glasses of fluid, all told, during the day; one glass of water on rising; one at 11 a. m. and 4 p. m. Do not drink while eating, but immediately after finishing the meal.

Treatment of Chronic Gastric Ulcer.—Kaufman, in the *International Jour. of Sur.* (July, 1919), claims that the diagnosis and treatment of gastric ulcer are among the most difficult problems that confront the general practitioner. The border-line cases to which the majority of gastric ulcers belong tax the resources of the physician to the utmost. There is a group

of cases in which the symptoms vary from the classical ones along broad general lines. Often medical treatment is but a temporary relief and is ineffectual. There is a sharp line of demarcation between the acute peptic ulcer and the chronic callous ulcer. In the former causes are pain, nausea or vomiting, and hemorrhage. The treatment of this type is medical, but extremely complex. A callous ulcer is frequently silent over varying intervals of time and is situated at the pylorus or to either side of it. The duodenal ulcer occurs within the first one and a half or two inches of the duodenum, while the gastric appears as a single ulcer with marked infiltration and adhesion to the omentum along the lesser curvature.

Surgery should be resorted to only when the diagnosis is reasonably plain and confirmed by the X-ray. In the majority of cases which present definite surgical indications contraindications to operation exist in those which respond to medical treatment and in those with pronounced neurosthenic symptoms in which the x-ray evidence alone demonstrates abdominal lesions remotely related to the neurotic symptoms. Among the most important indications for operation is the failure of medical treatment. Patients may show long intervals between attacks when they are free from symptoms and such latent periods may be followed by symptoms which require surgical treatment. The failure should be amply proved and the patient should have at least five weeks of adequate treatment, persisted in longer if there are any signs of improvement. The mechanical effects of gastric ulcer demand surgical intervention and are a contraindication to medical treatment. In addition to obstruction with retention and stagnation, persistent hyperchlorhydria, which does not yield to medical treatment, and chronic cases with recurrent attacks of violent pain and tenderness require operation.

The likelihood of the development of cancer in ulcer cases, ulcer carcinomatosis, constitutes a very strong, urgent indication for surgery. The possibility of perforation in callous ulcer and septic peritonitis seems to justify the radical cure of the ulcer. The general operation for ulcer of the stomach and duodenum is posterior gastroenterostomy. Any method used is satisfactory provided the anastomosis is at least two inches long, placed on the inferior margin of the stomach, and looping of the proximal jejunum is avoided. In definite callous ulcer it is useful as it provides drainage at the dependent part of the stomach, affording an opportunity for healing by rest, permitting the alkaline intestinal juices to overcome gastric acidity, and in preventing spasm of the pylorus. The cases in the sufficient obstruction at the pylorus recognized by the X-ray or at operation, gastroenterostomy will alone permit drainage by short circuiting without the possibility of gastric contents passing over to the ulcer site. In cases where the pylorus is patulous gastroenterostomy does not seem to suffice since the gastric contents will pass equally thru the pylorus and vitiate the object of the operation, i. e., to permit healing of the ulcer

by rest. Where the pylorus is patulous it should, be mechanically occluded in order to short circuit the ulcer area. Simple gastroenterostomy may be limited to cases in which there is pyloric stenosis and to those in which the pylorus is patent to perform artificial pyloric occlusion. It is almost certain that no method of pyloric occlusion can remain permanent and ultimately most of the gastric contents will pass out in the natural path. The method permits sufficient rest for healing to take place. In patients with neurotic symptoms caused by long continued indigestions and pain, the result will be marred by the persistence of certain indefinite symptoms. Immediate gain in weight, in strength and in ability to eat ordinary food without the use of drugs and the relief of constipation are the rule. Operation should be accompanied by attention to general hygiene regulation of diet so as to keep within the boundaries of safety.

The Atropin Treatment of Pylorospasm and Pyloric Stenosis.—Haas sums up his article on this subject with the following conclusions:

1. Hypertrophic pyloric stenosis is probably only an advanced degree of pylorospasm.
2. Both being manifestations in the syndrome of hypertonia (hypertonic infant).
3. The etiology is probably a disturbance in the physiologic action of the vegetative nervous system.
4. The vegetative nervous system is made up of two parts, the autonomic and the sympathetic; normally in balance, in this condition there is an overaction of the autonomic or vagotonia.
5. This does not gainsay the occasional existence of true organic stenosis of the pylorus.
6. Despite the brilliant results of many surgeons by the Rammstedt operation, in this condition an operation should be rarely required, and only performed after atropin has been given a trial.

7. Atropin properly used has been regularly effective in producing a cure.

8. At the present time the weight of authority would seem to indicate that hypertrophic pyloric stenosis and pylorospasm are two definite clinical entities.

In favor of this view is the existence of a cartilaginous hard mass of the pylorus in cases of stenosis, and the persistence of this mass long after a cure has been obtained by operation or otherwise.

a. Against this view is the experience of the last four years, all cases of pylorospasm, including four for whom operation had been advised, responded to treatment by atropin. A case of complete stenosis responded equally well.

b. Ransohoff and Wolley held an autopsy on an infant at seven and one-half months which had had a Rammstedt at the age of two weeks when a cartilaginous hard mass existed. At the autopsy this was absent and the pylorus patulous.

c. Rachford states that if the pylorus sphincter is so cut as to leave the orifice patulous and prevent muscular spasm of these fibers the pyloric tumor disappears.

d. Strauss, in a dissection of 65 tumors at operation, showed that the tumor was absolutely proportionate in size to the age of the infant, "which demonstrates that the tumor must be a progressive developmental affair."

e. The absence of fault in the arrangement of the normal histologic elements of these tumors speaks loudly in favor of a functional creation.

f. Rogers states that in fatigue the inhibitory impulses of the sympathetic system fail, and the vagus, then overacting, causes hypersecretion, hyperacidity and hypermotility or pylorospasm.

9. Among the arguments used against medical treatment is the sudden death, which not infrequently occurs. These are usually thymus deaths, and occur in cases operated as well as those medically treated.

10. Atropin is the logical treatment in these cases owing to its paralyzing effects upon the vagus nerve endings.

11. Certain facts must be borne in mind regarding atropin.

a. The inconstancy in value resembling digitalis in this respect.

b. Its rapid deterioration.

c. It must be used in sufficient dosage to be effective.

12. A common dose of atropin for an infant of this type from a few weeks to a few months of age is $\frac{1}{50}$ th to $\frac{1}{25}$ th of a grain in 24 hours, with an extreme of $\frac{1}{16}$ th of a grain divided among the days' feeding, a $\frac{1}{1000}$ th solution being used, beginning with one drop and increasing rapidly until effective.

13. The most frequent toxic symptoms are flushing, midriasis, dryness, which disappear promptly when the drug is withheld. There is no danger even when such symptoms present themselves.

Mixed Treatment of Chronic Intestinal Amebiasis.—Ravaut and Charpin (*Paris médical*, Aug. 16, 1919) report five cases of amebic dysentery, under observation for from six to sixteen months, in which numerous recurrences took place after initial improvement under emetine injections, and from twelve to twenty intravenous injections of novarsenobenzol likewise only yielded temporary improvement. While the injections of these drugs had lost their effect, the solution of the therapeutic problem presented was finally found to be in administering the same remedies by the mouth. Intravenous and subcutaneous medication constitutes the proper measure for acute dysenteric attacks as yet untreated, for certain subacute forms, and for hepatic complications; oral treatment, on the other hand, is that indicated in certain chronic, resistant forms, and is generally the only procedure available which will cause disappearance of the parasitic cysts, whether in dysenteric or in normal subjects.

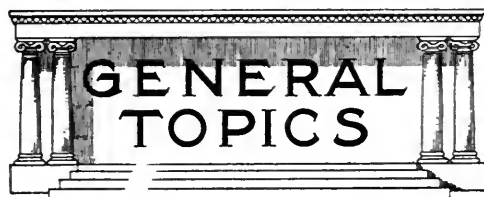
The double iodide of emetine and bismuth, efficacious in doses of 0.18 grain daily, often cannot be increased to this amount owing to cramps, diarrhea, and circulatory and renal disturbance; it should be used only with caution in weak subjects or patients with cardiac or renal impairment, and even in stronger individuals is an unpleasant remedy to take. The combination of remedies which the authors found most effectual in the five intractable cases referred to was novarsenobenzol by the mouth in 0.1 gram gluten coated capsules, and a paste consisting of 100 grams each of powdered charcoal, powdered bismuth subnitrate, syrup and glycerine, together with four grams of powdered ipecacuanha. Where there is violent and painful diarrhea, 0.8 gram of powdered opium or 0.4 gram of opium extract is added to the latter formula. Every teaspoonful of the paste contains 0.1 gram of ipecacuanha. Two to ten teaspoonfuls of the paste are taken one day, one or two capsules of novarsenobenzol the next, and so in alternation for twelve to twenty days. No nausea, vomiting, diarrhea, nor cramps was caused in any of the five patients by this treatment. The appetite and general condition rapidly improved, the dysenteric symptoms allayed and in some instances the parasites soon destroyed. As a supplementary measure enemas of 0.15 to 0.3 gram of novarsenobenzol, in fifty to 100 mls of water, and with a little laudanum or extract of opium added, have proved useful.

Cancer of the Prostate: A Combined Surgical and Radium Method of Treatment.—

Herbst (*Jour. of the Amer. Med. Asso.*, May 31, 1919) states that, unfortunately, the symptoms in cancer of the prostate are frequently not manifested until the condition is far advanced. This is particularly true of retention of the urine, which is a very early finding in benign hypertrophy. Irritability of the bladder may not develop until the disease has extended well up into the bladder neck. This is also true of hematuria. Altho hematuria is a rather constant symptom, it is frequently of the terminal type. Pain at the end of urination is a common symptom. Pain accompanying the sexual act usually indicates the involvement of the lower end of the genital tract, the seminal vesicles and ejaculatory ducts. These patients sometimes complain of pain in the rectum radiating up the back and down the thigh along the sciatic nerve. Residual urine is often a late manifestation. Rectal examination usually reveals a stony, hard, irregular, asymmetrical, nodular prostate. The rectal tissues are not movable on the tumor, and the tumor appears to be fixed. The term "frozen" has been used to describe this immobility. The prostate may not necessarily be greatly enlarged, but when one finds a hard, immovable prostate in a man of advanced years, one should be apprehensive of cancer. Loss of weight and strength and a marked secondary anemia are found as in other malignancies.

The diagnosis of cancer of the prostate is

not necessarily difficult in an advanced case in which the patient complains of any or most of the foregoing symptoms, and on examination a hard, stony, immovable prostate is found. However, the patient to be most benefited is the one whose condition is discovered early, before many symptoms have developed, and in whose examination only a small, hard subcapsular nodule is found. In those cases in which there is a coincident carcinomatous development with a benign hypertrophy, the diagnosis of malignancy is frequently not made until the surgeon finds enucleation difficult or impossible. Whenever a prostate is enucleated with difficulty, one should be more than suspicious of malignancy. However, we must not lose sight of the fact that even easily enucleated glands on microscopic examination may show evidence of malignancy.



From a Child's Toy.—Just one hundred years ago Rene Theophile Hyacinthe Laennec, one of the pioneers of modern medicine, observing some children playing in the gardens of the Louvre, listening to the transmission of sounds along pieces of wood, conceived the idea of utilizing this method for listening to breath sounds in examining a patient's lungs. He went home, fashioned a tube by rolling up some glued paper, and then experimented with this in his ward at the Neckar Hospital. From this incident in the garden dates the modern "stethoscope," an instrument well-nigh indispensable in the modern practice of medicine.

The early stethoscopes contrived by Laennec were unlike those generally in use in this country at the present time, for they were constructed to be used by one ear only. Nevertheless, the original Laennec type is still widely used in European countries. To us, who are accustomed to the scrupulous cleanliness of everything about the modern hospital, it is curious, indeed, to learn that the filthy condition of the patients in the hospitals in Laennec's time made it repugnant to physicians to listen to the sounds in the lungs by placing the ear directly on the chest of the patients.

Laennec gave his invention the name by which the device is still known, deriving the word stethoscope from two Greek roots, one meaning the "chest" and the other "to observe," or "regard."

In using the stethoscope, the instrument should be placed on the bare chest wall. For this reason, a satisfactory examination of the lungs can only be made when the patient is

stripped to the waist. Do not attempt to examine a patient's chest thru the clothing. Such an examination is worthless.

Dr. Laennec was born at Quimper, in Brittany, on February 17, 1781, growing to manhood during some of the most troublous years in the history of France. He studied medicine at Paris, receiving his degree of doctor in 1804. He died on August 13, 1826, at the early age of forty-five, in the quaint old town in Brittany in which he first saw the light.—*Virginia Medical Monthly*, December, 1919.

The Place of Fear.—How far is fear of disease to be regarded as a force in its prevention? "Fear of disease," a writer in a recent issue of the *Lancet* says, "connotes no ethical or religious quality." A merely selfish fear does not touch the domain of morals at all. The man who *simply* from fear of contracting disease avoids taking the risk is not on that account more moral than the man who is not deterred by the same fear; he is more prudent, but not more moral. Yet I think the influence of selfish fear has been underrated; self-interest is a powerful motive and its lessons are readily assimilated. Fear does play a part in preventing many people from seeking exposure and does drive men to treatment. Nor is fear a contemptible thing; the instructed man who does not fear syphilis is a fool. Fear is not a synonym for cowardice, nor recklessness for courage.

Moreover, fear is not always, or even generally, purely selfish. It usually has in this connection some social coloring; fear for one's own family, fear of what others will think—such fears cross the border line of ethics. And—the practical point—whether fear be purely selfish or partly altruistic, every young man and woman has a right to know the facts. "Why was I not told?" has been a frequent and well-founded complaint. It is also certain that they should be taught to seek treatment on the first suspicion of disease. Prompt treatment is clearly in the interest of prevention.

"Hold the Line, Please."—Your telephone rings. You pick it up and some switchboard voice says, "Hold the line, please, for Mr. Smith." You are probably just as busy as Mr. Smith, but to save himself time he has instructed his operator to "get you on the phone," and there you are while Mr. Smith completes his conversation with somebody else, or signs a few more letters, or on some other account comes leisurely to the point where he picks up his own phone and greets you as pleasantly as if he did not know that you were out of humor and annoyed by having to wait his convenience.

This thing of getting the other fellow on the phone and compelling him to wait while the connections are completed or until somebody who wishes to speak with him has found

it convenient to begin the conversation, is a piece of bad manners which ought to be corrected. No man has a right to assume that his time is any more valuable than that of the individual with whom he wishes to speak, and if he does he is taking chances, many a time, on creating an atmosphere on the other end of the line in business hours that will either cost him an order or spoil a deal.

It is a courtesy to the man you want at the other end of the line to be on the phone yourself when you call him and, if he has a switchboard, there is no propriety in putting your call beyond his switchboard and then waiting for that board to make connections with his desk.

Some of us are going to fix a limit pretty soon on the time we will hold the line for Mr. Smith and it is going to be about a quarter of a minute.—*Minneapolis Tribune*.

Hobbies.—It is well for a man to have a hobby, says a writer in the *New York Medical Journal* (October 11, 1919). Just what place this hobby should have in his life is a debatable question. At times it may turn out to be one's life work and again it may remain a remote phantasy which is not approached for fear that it may prove disappointing. The rule, however, is that in one's journey thru life various things are encountered which are especially attractive. They may be chess, golf, photography, the collection of beetles or postage stamps, mechanics, music, aeronautics or what not. Some professional men, especially physicians, find their source of chief interest in some branch of their profession. They continue the practice of medicine, to earn their living, but the specialty which for some unknown reason has attracted them receives their deepest attention. The moment the question is brought up or an article is written which touches upon the subject nearest their hearts everything else is forgotten and they find their true media. Again other men become so obsessed by their chief source of interest that all other subjects are cast to the winds. The hobby ceases to be a side issue and becomes the predominant one. This may in turn prove unfortunate and even dangerous for a paranoid form of reasoning may result. The world becomes inhabited by bacteria alone or all phases of life are explained thru the endocrine theory or psychoanalytical philosophy. Specialists cease to become servants and assume the rôle of masters. This frequently leads physicians to no longer regard the advocates of various specialties as experts but look upon them as slaves chained to a dogmatic formula which has turned their heads. The full benefit is not derived from whatever the specialty may be. The hobby instead of broadening its possessor tends to make him more narrow and to limit his vision. It is well to have a hobby. It is well to have a hobby which can be used as a faithful servant. It is well to have a hobby as long as you can ride it, but when it begins to ride you it is better to look about for another steed.



NEWS NOTES AND ANNOUNCEMENTS

Physicians Who Fail to Report Communicable Diseases to be Prosecuted.—The intention on the part of the Department of Health of the City of New York to enforce the sections of the Sanitary Code which make compulsory the reporting of communicable diseases by both physicians and institutions is evidenced in a statement issued in the *Weekly Bulletin*, under date of December 20. When the officers of the Department of Health, according to the statement, ascertain that the required information has been withheld by physicians, dispensaries or hospitals, it becomes their unpleasant but imperative duty to bring such delinquency to the notice of the Commissioner. The latter has no alternative but to make a thoro inquiry, and, if the facts warrant such procedure, to resort to legal action to enforce compliance with the regulations.

A Society for Research in Anesthesia.—Announcement is made of the launching of the National Anesthesia Research Society, with the avowed purpose of collecting data and prosecuting original research in this field of medicine. The objects of the Society as set forth in the constitution are:

"To promote the science of anesthesia and to enable its members, after first having obtained the approval of the Society, to submit without prejudice to the dental and medical professions, any views, findings, or accomplishments they have attained; to obtain from all available sources such information as is now extant concerning any material, liquid or gas, known to have anesthetic properties; to arrange in co-operation with dental, medical, and anesthesia associations for the preparation and delivery of suitable interesting and educational papers on the general subject, or relative to some particular anesthetic; to use influence to prevent the publication or circulation of any false or un-authentic statements concerning any and all conditions, symptoms or phenomena prevailing during or after anesthesia by any anesthetic, and to prepare and distribute on request, forms on which such information can be tabulated with uniformity; to distribute by pamphlet or publication, as its funds may permit, and its governing powers authorize, such reliable data as it may collect or obtain thru its members or others interested in the subject of anesthesia, for use by the medical and dental professions; to cooperate with state authorities and other bodies in the preparation of suitable legislation to safeguard those to whom anesthetics are administered as well as those called upon to administer them; to use its influence in every way

and to give its aid toward the advancement of the Science of Anesthesia."

The Research Committee which will have supervision of original work and the editing of material designed for the profession and professional press, is headed by F. H. McMechan, A. M., M. D., of Avon Lake, Ohio, editor of the *Quarterly Supplement of the American Year Book of Anesthesia and Analgesia*. W. I. Jones, D. D. S., president of the Inter-State Anesthetists' Association, will have an active part in the committee's work. Representative anesthetists of the country, who have distinguished themselves by research and progress in their field, are being invited to join the committee.

The Society has been endowed with limited funds which will permit it to demonstrate that there is a field of usefulness for it.

Medical Journals Merge.—The *Medical Herald and Electro-Therapist* of Kansas City makes the following announcement: Several years ago, the *Medical Herald* absorbed the *Kansas City Medical Index* and *The Lancet*. About the same time, the *Medical Fortnightly* of St. Louis took over the *Laboratory News*, which in turn had several years previously succeeded the *General Practitioner* and *The Clinique*. So in line with the spirit of the times, on January 1, the *Medical Herald* and the *Medical Fortnightly* will join forces, and thereafter will be issued as one journal, thus combining seven publications in the *Medical Herald and Electro-Therapist*.

Government Positions in Occupational Therapy.—The United States Civil Service Commission has announced examinations for field supervisor of reconstruction aides in occupational therapy, at \$1,800 a year; superintendent of aides in occupational therapy, at \$2,400 a year; special instructor in occupational therapy, at salaries ranging from \$1,200 to \$3,500 a year, and reconstruction aides at salaries from \$720 to \$960 a year. Reconstruction aides will also receive quarters, subsistence and laundry. Appointees to all positions whose compensation does not exceed \$2,500 a year will receive the increase of \$20 a month granted by Congress if their services prove satisfactory. In all about 500 positions in the Public Health Service thruout the United States, and at St. Elizabeth's Hospital (insane), Washington, D. C., will be filled.

The examinations for field supervisor of reconstruction aides and superintendent of aides will be held on February 24. The other examinations will be open until further notice. Both men and women, if qualified, will be admitted, but appointing officers have the legal right to specify the sex desired when requesting certification of eligibles.

None of the examinations requires competitors to assemble in an examination room for tests. The ratings will be based upon the elements of education, training and experience and upon a written discussion on one of a number of given topics connected with the work.

Further information and application blanks may be obtained from the representative of the Civil Service Commission at the post office or customhouse in any important city, or by communicating with the United States Civil Service Commission, Washington, D. C.

Diseases Under Investigation.—*Hospital of the Rockefeller Institute for Medical Research.*—In addition to the diseases which were announced in the *Bulletin* of September 15 as being the subjects of special study in this Hospital, it has been decided to undertake the study of measles. Beginning January 10, 1920, a limited number of patients suffering from this disease will be admitted to the Isolation Wards of this Hospital for care and treatment. It is desired that patients be referred as early in the disease as possible.

Patients suffering from the other diseases mentioned in the previous *Bulletin* will continue to be admitted. These diseases are: acute lobar pneumonia and other acute respiratory infections, cardiac disease, acute rheumatic fever, nephritis. Physicians may communicate with the Hospital, 66th St. and Ave. A, New York City, by telephone (Rhine-lander 900) or by personal application to the Resident Physician. An ambulance will be sent promptly when required.

Booming the Goober.—In the South the peanut is known as the goober. According to the U. S. Department of Agriculture the peanut crop has increased in nine years from an acreage of less than 900,000 acres to 4,000,000, with a value of \$150,000,000. The department urges the use of peanut flour as an addition to wheat bread. The protein of the peanut is of superior value, equal to that of milk, and increases the value of the protein of wheat, which is an incomplete protein. In this respect the peanut serves much the same purpose as cow's milk, and is much superior to meat. The peanut and its distant relative, the soy bean, are destined to hold an important place in the national food resources of the future.

A great many chemicals for the production of which America was formerly entirely dependent upon Germany are now being successfully produced in this country. Two important pharmaceutical products, derived from coal tar and our entire supply of which formerly came from Germany, are creosote carbonate and guaiacol. American chemical works are now prepared to supply all demands for these products.

Plan Health Conservation.—A plan for nationwide conservation of health is being urged by Surgeon General Blue of the United States

Public Health Service, who is calling on all the health agencies to cooperate in a carefully prepared program. In the statement just issued he says that preventable diseases cost the United States \$4,000,000,000 less in 1917 than it would had health conditions of twenty years ago prevailed in 1917. Illness of workers still costs this country \$2,000,000,000 a year.

Los Angeles Narcotic Clinic.—Los Angeles has announced plans for the establishment of a municipal dispensary and clinic for the decreasing dosage treatment of narcotic addicts. The municipal clinic will be open mornings and evenings. It will be in charge of physicians working under the supervision of the Health Commissioner, a recognized druggist of ability, and nurses. It is expected to prescribe morphin and other narcotics just enough above cost price to bring the clinic up to a self-sustaining basis.

Program of Public Health Service.—Experience has shown that the best cooperation in Federal health work can be secured from the the Federal aid extension principle, states a bulletin which has been issued by the United States Public Health Service, outlining its program for after the war needs. This bulletin appears as Supplement No. 35 to Public Health Reports.

The bulletin outlines the activities which the Public Health Service proposes to follow up during the times of peace under the following headings: (1) Industrial Hygiene; (2) Rural Hygiene; (3) Prevention of the Diseases of Infancy and Childhood; (4) Water Supply; (5) Milk Supply; (6) Sewage Disposal; (7) Malaria; (8) Venereal Diseases; (9) Tuberculosis; (10) Railway Sanitation; (11) Municipal Sanitation; (12) Health Standards; (13) Health Education; (14) Correcting of Morbidity Reports; (15) Organization and Training for Duties.

American Public Health Association.—The American Public Health Association will hold its convention in 1920 at San Francisco. The officers of the Association for the coming year are Dr. W. S. Rankin, Raleigh, N. C., President; John Armyot, Ottawa, William H. Robin, New Orleans, G. H. Sumner, Des Moines, Vice-Presidents; W. H. Hedric, Boston, Secretary; and Lee K. Frankel, Treasurer.

Increase of Tuberculosis During the War.—At a meeting of the Congress on Tuberculosis Prevention in London, the Hon. Christopher Addison, Minister of Health, is reported to have stated that a great number of men have been added to the sufferers from tuberculosis because of the war. He suggested improved housing conditions as one of the most important of preventive measures.

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In Advance

The Continuous Bath.—A few years ago the idea of putting a desperately ill patient in a tub of water and keeping him there continuously for twelve to seventy-two hours would have been considered rash in the extreme. But the Great War brought so many innovations in medicine and surgery, and established views and methods have been so upset, that most of the wonders of yesterday have become the commonplaces of today.

Therefore, the treatment depicted by the illustration on our front cover this month is far from being as startling and strange as it would have been a few years ago. Diogenes domiciled in his traditional tub obviously had nothing on the shell-shocked patient shown in the picture, who is kept in a bath of warm water for days at a time. This procedure surrounds his whole body up to his neck with warm water which can be kept at an even temperature.

The results from this line of treatment in cases of shell shock, certain forms of meningitis and many nervous disorders, are very gratifying and much more prompt and positive than are obtainable from other remedial measures. In heat stroke and some febrile ills in which the temperature runs high, the continuous bath with cold, or lukewarm water, has been shown to be very effective. As a matter of fact, the continuous bath has proven so useful in numerous serious affections ordinarily intractable to other lines of treatment, that several

of these specially designed tubs for its administration are nowadays considered an indispensable detail of every large hospital's hydrotherapeutic equipment.

The photograph on our front cover was taken at the Letterman General Hospital at the Presidio, California, which is one of the many hospitals thruout the country that are endeavoring, thru the most up-to-date and efficient mechanical measures, to restore the health of afflicted American soldiers.

The Johns Hopkins School for Public Health.—The developments of public medicine in the United States depend upon the progress of institutions designed to impart instruction in hygiene and public health. The establishment of a school at Johns Hopkins should provide better opportunities than have hitherto existed. The stimulation of interest in preventive medicine is urgent if the United States is to be supplied with an adequate number of persons properly qualified to undertake the duties involved in public health administration.

It is of interest to note the schedule of courses which has been arranged as the essential subjects required and leading to the degree of Doctor of Public Health. The most striking characteristic of the catalog and announcement of the Johns Hopkins School of Hygiene and Public Health is the great stress placed upon theoretical

phases, and the lack of reference to the practical applications of the subject to be taught. An analysis of the provisional arrangement of courses would suggest that the public health administrator need be merely a highly trained bacteriologist, with a little additional training in statistics, immunology, and administrative and sanitary law, and a moderate amount of chemistry, including metabolism and nutrition. The selection of laboratory courses advised includes elementary bacteriology and chemistry, advanced bacteriology and statistics, immunology and applied physiology, sanitary engineering and protozoology, epidemiology, and medical entomology, helminthology, and an advanced elective in some one department. It is evident that in the didactic and laboratory work students will have abundant opportunity for acquiring the technic of sanitary or laboratory procedures, but more than this is essential for the development of a well equipped health administrator.

The projected course of study contains no reference to economics or sociology. Diet and nutrition are regarded as phases of chemical hygiene. In a description of the course, however, there is far greater stress placed upon animal nutrition than upon the practical phases of economic dietetics as related to the maintenance of high standards of nutrition for the public. Physiologic hygiene on paper is devoted to problems concerning the composition of the atmosphere in its relation to health; the physiologic action of light, heat, and other radiations; exercises and fatigue, muscular and nervous; laboratory exercises; technic by methods of analysis, etc. There is no suggestion, however, of any practical applications of physiologic hygiene to industry.

The public health administrator need not himself be a highly trained laboratory technician and bacteriologist. He must, above all things, be cognizant of the problems of public health. The question might quite properly be raised as to whether the provisional courses, as described in the announcement, would enable a graduate to cope with the problem of infant mortality as successfully as a generally trained health officer, well grounded in sociology and economics and understanding the problems of ignorance, poverty, prenatal neglect, room congestion, and similar themes which appear to have no place in the Johns Hopkins curriculum. Sir Arthur Newsholme, until recently head of the Local Government Board of London, who has become affiliated with the Johns Hopkins School, may be counted upon to change a part of the point of view insofar as the welfare of children is concerned. It seems almost unbelievable that a course of public health administration should be presented without containing some reference to such necessary topics as infant welfare stations, maternity clinics, medical inspection of schools, school nursing, public health nursing, public health education, and similar topics which occupy the foremost places in the modern organization and administration of preventive medicine.

It cannot be gainsaid that the course of study, as tentatively devised, is exceedingly useful, and affords an opportunity for the training of valuable aids in public health work, but it is doubtful whether this highly organized bacteriologic basis of public health is thoroly consonant with the teachings of modern preventive medicine. It is patent that the background of public health medicine, as viewed by those who are responsible for the course of study, was

pathology, and pathologic technic has been the single basis for determining public health procedures.

The constructive phases of modern public health work, as related to the social and economic problems, are the ones most emphasized today in those health organizations having the highest standards of efficiency. The chemical and bacteriologic departments of large municipalities play a vital part in the protection of public health, but are probably of no greater importance than the organizations for school hygiene, industrial hygiene and public health education, which depend upon workers also trained in sociology, psychology, economics and education.

It is to be hoped that the impression from reading the provisional course of study will not be substantiated in the course as finally given. Public health medicine may be rooted in pathology, but the leaves and branches which give it strength and growth are found in human relationships.

Influenza.—Once again influenza prevails in epidemic form, the present figures would appear to indicate a lower degree of virulency. During 1918-19, fully ten million deaths resulted from this plague, indicating a mortality rate in total figures larger than that due to war. Every country in the world suffered from its devastations, which were particularly severe in view of the fact that the death curve ran its highest during the period of youthful vigor and potentially greatest serviceability.

The sum total of our knowledge, as the result of the study of the pandemic, has not been enriched. Discussions as to causality continue to arouse interest, while methods of prevention, administrative control

and treatment are in a far from satisfactory condition. The incidence of the previous year appears to have had no rule or regulation, and present experience indicates no greater degree of control than existed last year. Data are lacking to demonstrate the reason why Grand Rapids should have had a mortality rate of 1.5 per thousand, Los Angeles 5.2, Philadelphia 7.3, Pittsburg 8.0, Nashville 8.7, Milwaukee 2.9, St. Louis 3.0, Chicago 3.8, New York 4.7. Furthermore, no reasonable explanation has been forthcoming to give light upon the variation in mortality relative to the morbidity rate. Our knowledge concerning affected places, races and ages is of the slightest value. The ravages of influenza are as inexplicable today as they were a year ago.

The excellent preparations made by the Health Commissioners of New York and Chicago for preventing influenza during 1920, have amounted to naught, and the extent of the disease appears to have been but slightly affected by the extensive preparations made. It is equally questionable whether the mortality returns will reflect any advantage that can have arisen from their most adequate plans to control the epidemic. If there be a decreased mortality rate, it will be due largely to a lowered virulence in the disease, rather than because of an improvement in methods of quarantine and treatment.

It is significant that this year less stress has been placed upon the use of masks, immunizing vaccines and hospitalization. All these items were in the forefront of medical thought during the preceding attack of the disease. Fortunately, this year there is no shortage of physicians, altho the supply of nurses continues to be inadequate. The greatest reliance is being placed upon prompt medical treatment and adequate

nursing for the control of the disease and individuals, while public administration devotes itself to decreasing overcrowding in public utilities, securing better ventilation in theatres, workshops and offices, educating the public in hygienic self-control, and preserving the general morale of the community. In general there is less interest in the causal relation of Pfeiffer's bacillus and the streptococcus hemolyticus and the various organisms causing pneumonia, save in so far as they continue to be thoroly studied by laboratory students.

It is the natural hope that researches into the present visitation of the "flu" will afford more information regarding its origin and dissemination than now exists. It is patent that effective methods of control and prevention are dependent upon a knowledge of its causes as a prerequisite for determining the necessary means of protection and limitation, or for establishing a rational specific form of treatment.

Heredity.—The problem of individual responsibility is variously interpreted in accordance with one's belief concerning the influence of heredity or environment. It is patent that with too great stress placed upon heredity the limitations of environment are marked; and in turn the effect of environment upon individuals must be determined principally by the inherited potentials. To over emphasize hereditary traits weakens in part personal responsibility for undesirable traits and attributes and decreases the merit of individual achievement.

Our knowledge about heredity is growing rapidly and the study of character on the basis of genetic investigation is adding greatly to the available working facts. The De-

cember number of the *Journal of Heredity*, approaches the problem of heredity in a most interesting manner from a consideration of the physical, mental and moral characteristics of twins. The most important element of the contribution is the emphasis placed upon the chromosomes and the powerful factors controlling human destiny. There is apparently sufficient evidence to indicate that the ordinary efforts of environment are insufficient to modify greatly the control of the chromosomes. This, of course, further strengthens the view that acquired characteristics are not inheritable and that the effects of education principally modify the existent generation. This conclusion pertinently charges society with a responsibility for directing and guiding individual development toward the social ends promoting communal welfare. It places the obligation for efficient citizenship upon each generation that is obliged to work upon types of racial stock whose primary characteristics have been predetermined by heredity.

The eugenic agencies call for greater attention to the limitation of groups whose chromosomes are inimical to social welfare and call for the development of those branches of the community whose heredity appears to be most favorable for the growth of a larger measure of social welfare. The comparison of the development of identical twins reveals the tremendous pervasive force of heredity in a way that is not to be secured from the comparison of children arising from different chromosome combinations. The world, in a sense, is constituted by the characters handed down from racial inheritance.

The interest in heredity is enhanced by an understanding of this basic fact, but the practical service lies more in the adjustment

of our educational machinery to the end that the maximum development of favorable traits may be secured. Dysgenic attributes or characteristics may be suppressed or modified in the interest of future generations.

The tendency to overweight the importance of heredity is not unrecognized, but on the other hand, there is equally prominent a danger from neglecting to give this phase of life sufficient thought and attention. The problem of the balance between heredity and environment is still unanswered and considerable research is required before hard and fast rules may be formulated. This part of medicine demands more careful scrutiny than that which refers to the hereditary nature of disease and seeks to place the responsibility for maldevelopment and the acquisition of disease upon the progenitors of those suffering from afflictions too little understood. An appreciation of the Mendelian law offers a splendid point of departure for the study of numerous defects and diseases, but its revelations thus far have merely scraped the surface of pathology as affected by heredity.

The Cost of Living.—The cost of living is an essential factor to be considered in arriving at safe conclusions concerning many social problems involving personal welfare. The vast difference between weekly earnings and annual income demands some elucidation of the basic cost of living, constituting a minimum budget of health and decency.

A recent study of the Quantity-Cost Budget Necessary to Maintain a Single Man or Woman in Washington, D. C., *Monthly Labor Review*, January, 1920, suggests the necessity for an annual income for a single

man of \$1,057.55, and \$1,142.92 for a single woman. The costs were based on prices prevailing during August and September, 1919.

These figures are limited by a failure to make any provision for books and magazines or for educational purposes, and there is no special allowance for vacation. Some of the other figures strike one as inadequate, as for example: Amusement and recreation are to be secured for the men for \$39.00 per annum, and for women for \$20.00. This allowance certainly does not lean towards extravagance, while amusement and recreation form an essential part of the provision of health maintenance, particularly on the mental and moral side. The segregation of such a fund is disproportionately low compared with \$52.00 per year for laundry for men, and \$65.00 per year for laundry for women.

All the medical charges including the services of physicians, dentists, oculists and the cost of medicine is embraced in the item \$32.00 per year per man, and \$43.00 per year per woman. This sum in itself is not striking as representing an annual cost, tho the amount of medical service procurable at this rate is recognizedly exceedingly limited. The cost of maintaining good health is not to be estimated in terms of the expenditure for the regaining of health or in the checking up of possible defects of eyes and teeth. The expenditures for health maintenance legitimately should have some reference to the cost of board and lodging, the provision of adequate clothing and the expenditure of money necessary to secure amusement, recreation and vacations. On the basis of the budget, the allowance for health appears to be small, but with the wider interpretation suggested, they may be sufficient, providing no prolonged or serious

illness occurs demanding the attendance of specialists, hospital treatment, or operative intervention.

The budget proper does not permit of great leeway in the matter of expenditures, nor is it sufficiently elastic to permit of a continuance of the standard of living in the face of increasing costs of food, rent or clothing. Ten per cent. of the living expenses forms the estimate of an amount to be provided for savings, whether actually held in the bank or expended for insurance or investment.

These budget figures are of interest to medical men, or should be, not because of the limited appropriations for medical service, but because of providing a more or less concrete picture of standards that must be considered in giving advice or suggestion to the individual. Herein one sees the possibilities of dispensary problems; the difficulties in convalescence; the difficulties of adequate hospital care; the problem of securing adequate medical supplies and apparatus, and proper nursing when occasion arises. It must also be remembered that the making of a budget in general is different when the income of a year as estimated fails to be realized. This problem for single persons is intensified when family budgets are considered. The relation of income and budget-making gives evidence of a lack of economic adjustment which is translatable into terms of infant mortality, tuberculosis, malnutrition, delinquency, criminality and various other evils which present numerous medical aspects.

The professional man, struggling with his own problems of income and budget-making, should possess a keen interest in the entire subject, particularly as the income and budgets of other families are fundamental in the economics of medical life.

Human Engineering.—The development of interest in industrial accidents and diseases has been accompanied by a growth of attention to the strictly medical aspects of these conditions. In no lines of work are the roots of preventive medicine more firmly fixed. The aim is the physical welfare of workers. The tendency toward specialism has resulted in the creation of a new medical specialty which is termed by Acting-Assistant Surgeon F. S. Rector, "Human Engineering," *Public Health Reports*, January 9, 1920.

The conception of industrial medicine is broadened by an appreciation of the content of the name, "Human Engineering." When it is realized that there are more than two million accidents involving time loss of more than one day, and approximately twenty-three thousand persons are being killed annually, while fifteen to eighteen thousand suffer permanent disability, one can appreciate the opportunities for accident prevention. The sickness among industrial workers averages eight days per worker per year, which amounts to a time loss of over two million working people for one year. Laying aside the wage loss of over one billion dollars per year, with the additional loss in production, the cost of medical attention and the cost to the community for the care of permanently disabled workers, consideration must be given to the sufferings of the diseased and the physical deterioration of families incident to the incapacity of the wage earner. To cope with this general situation, a highly trained and efficient industrial physician is essential.

The old type of company doctor is giving way to the expert "human engineer." His duties and obligations may be realized from the fact that he is plunged into the complex problems of employment, safety, medicine

and human welfare. "He must be able to interpret industrial processes, understand the operation of mechanical appliances, size up the human requirements for filling a certain job, make scientific studies of the hazards of occupations, make certain that proper working conditions are provided for the industrial population and interpret these findings in terms of increased production, decreased labor turnover and healthier and and happier workers. He should also be able to tune up the home, community and industrial environment, so that each would bear its part of carrying forward the great commercial life of the Nation."

The position of the "human engineer" in industry is of practical importance, but no less so than that of any worker in the field of preventive medicine. The social aspects of disease are so intimately bound up in heredity, environment, economic status and social contact that the problems of "human engineering" may be said to characterize all medical social work. It would be unwise, therefore, to substitute the term "human engineering," for industrial hygiene, because the latter is simply one phase of the broader subject involving the engineering problems underlying human welfare. All preventive work possesses the characteristics of "human engineering" in that it seeks to cover all fields associated with medicine with the end of securing a greater leverage upon the causes responsible for conditions inimical to the maximum potentials of human development.

Ohio's Plan.—The influence of war and pestilence has manifested itself in various attempts to strengthen public health administration. The most significant alteration

is evidenced in the reorganization of Ohio under the so-called Hughes Health Law. This has swept away all forms of local administration on the part-time basis and substitutes a state department system with many districts, each in charge of a public health officer whose sole business it shall be to protect the public health. The state makes provision for a part of the cost of minimum organization, while local districts are to determine the entire cost of the health service and are to maintain control of the administration. The average addition to the tax rate of the state is only fifteen-hundredths of a mill.

In order to bring about the successful administration of the new law, civil service examinations were established and five classes of Health Commissioners were made. The salary grades vary from a first year at \$2,000 in the lowest grade of health officer, to \$6,000 in the highest grade. The examination was a non-assembled competitive type, with ratings based upon education and experience, together with oral interviews when deemed requisite.

The qualifications of Health Commissioners of the various grades are high, as is most proper, considering the variety and seriousness of the duties to be performed. The accomplishments within the different types of districts depended largely upon the ability of the health officers to grapple with their problems, to bring to bear a broad conception of public health work, and to manifest administrative ability commensurate with the complexity of their problems.

This effort of the State of Ohio to readjust its public health administration merits the attention of legislatures thruout the Union. It provides for a reasonable degree of local autonomy, while granting the state a reasonable degree of supervision. It af-

fords ample opportunity for initiative on the part of the health officer, while definitely designating a variety of duties which appear to be in line with the necessity of rational preventive work. There is little doubt that the plan will prove successful and serve as the basis for extensions of health administration along similar lines in other states. Ohio has set an example deserving emulation, in seeking to keep public health abreast of the best modern practice and in systematizing its efforts along approved lines.

Intolerable Intolerance.—The importance of protecting the reputation of medical societies is by no means negligible. The sensitiveness of the profession toward its own good name is meritorious. Fortunately, few instances arise wherein discipline is indicated or the suspension or expulsion of members is imperatively demanded.

Recently, a medical society has sought to secure the expulsion of a member because of his economic views. Without passing judgment upon the personal opinions of the physician, with reference to large economic questions, and without censoring his attitude on social problems, one may properly inquire into the right of a medical society to seize upon such views as a reason for severe disciplinary measures. It is doubtful whether any medical organization possesses the right to censor or review the opinion of its members, or to interfere in any way with their personal views upon politics, religion, science, economics, or sociology, so long as such opinions do not run afoul of the constitution and by-laws of the medical society.

There are so many questions of medical ethics that might be a source of greater in-

terest and lead to more vigorous action, that it hardly seems rational that they should be overlooked in the face of an attempt to find matters of opinion contrary to those of the mass of the profession, as a reason for expulsion. Were the member guilty of fee splitting, or committing abortions, or violating the code of ethics, or of transgressing the rules and regulations of the society, there could be no legitimate objection to any form of procedure aiming to clear the record of the organization of the cloud of an unethical name. When, however, the alleged crime or indiscretion consists of entertaining economic views that appear to be counter to those appealing to those with most conservative tendencies, it is time to ask whether this action in itself represents a high degree of ethical performance for a medical society.

Medical societies have sufficient problems of a distinctly medico-ethical character to engage their attention without rushing into the field of economic opinion. The practice and performance of medicine are not determined by personal opinions with reference to socialistic tenets, religious dogmas or social theories. The treatment of typhoid fever, or the removal of an appendix is undisturbed by a belief in radical doctrines or by an opposition to the beliefs of a majority of the membership of a medical society.

Medicine is termed a liberal profession, and this liberality should extend to the right to think upon non-medical topics with as great a freedom as upon medical theories. The numerous differences of opinion upon medical and surgical problems attest the willingness and purpose of physicians to use their own minds in determining upon their course of action in the presence of personal disease. An equally free privilege

of thought should be granted to those who give consideration to the ills of society. What group of medical men possesses the omniscience to set themselves up as the judges of the views of any individual colleague on moot matters in any field of human thought. If it were possible to expel a member for radical views in the field of economics, it would be perfectly consistent to try him on charges of holding social or religious views subversive of the interest of society, as interpreted by members of any state or county organization. This would constitute an invasion of the right of men to think as their experiences and consciences dictate.

Tolerance of opinion, however distasteful, is a characteristic of the balanced mind. The individual opinions of physicians upon non-medical subjects are not the concern of any medical society, so long as those individual views do not come into conflict with the laws and ethics of the medical profession and the special society. It is unfortunate that any of the hysteria, so rampant today, should be manifest in the proceedings of medical societies. There are numerous examples of needs of house-cleaning within the profession on problems of medical ethics, without having recourse to measures smacking of the Inquisition.

The right to think must not be abridged by the action of physicians, the history of whose profession is a constant reminder of the struggle of liberal thought against the forces of reaction and against the petty illiberals who sought and would seek arrogance and impertinent self-assertion to retard or stifle human progress. Let the medical societies give thought to the history of medicine before attempting to expel a member for entertaining views upon any subject that appears to be unpopular or con-

trary to current opinion. Intolerance has been a blight upon medical growth. Medical intolerance is, therefore, more intolerable when manifest in any realm of scientific thought.

Canned and Bottled Foods.—The scarcity of food thruout the world and high prices that prevail have resulted in a vastly increased consumption of canned and bottled foods. The public has been well educated regarding the dangers that lurk in tin cans, but there was always a feeling that bottles were immune from such dangers. The news of the practical wiping out of a whole family who had innocently emptied the contents of a bottle of olives came as a shock and a surprise to the public and caused no little concern among professional men. For, tho it is realized that bottles are less dangerous receptacles for food as a rule, the menace they hold is a much subtler one than that presented by canned goods. The contents of a sealed can, when spoiled or unfit to eat, can be easily recognized as such even by the layman but the contents of a bottle present no such definite marks by which danger can be recognized. Little is known of the bacillus botuli, the presence of which in bottled goods as well as canned goods is so dangerous, and the situation is further complicated by the fact that the presence of this bacillus is not readily apparent even under close examination. Only a minute microscopic examination can lead to its discovery, for taste and odor are entirely absent. In view of this, it is fortunate that the tragedy which occurred recently does not occur more frequently, for the public has no adequate protection against this danger. Olives and sausages are especially favorable to the development of this bacillus, and the consumer can feel secure only

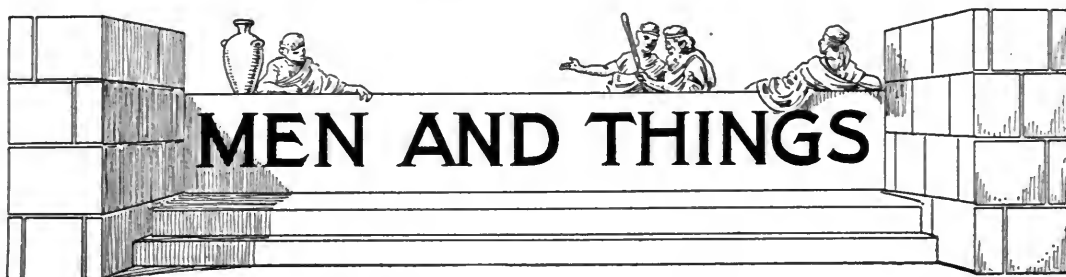
by cooking them and bringing them to a boil before eating. That is the only safe measure and, tho a troublesome one and necessary only in the rarest instances, it is a wise and indispensable precaution. This simple expedient should be brought to the notice of the public.

Railway Toilets.—The subject is not a particularly pleasing one, but the enormous extent of travel today nevertheless makes it one of very great importance to the traveling public. The people happily, have come to realize that few possessions have a more far reaching influence on their personal, social and economic welfare than good health. Nothing, consequently, that has any relation whatsoever to health is too insignificant, or unpleasant from esthetic standpoints to receive necessary and appropriate attention. In this connection we feel, therefore, that our esteemed contemporary, the *New York Medical Journal* (Aug. 16, 1919) has performed an excellent service in pointing out editorially that among sanitary conditions that cry to heaven for improvement are the toilet accommodations of our railways. As the writer states, "Where there is (or was) rivalry of roads there is perhaps little need for improvement with present day means of disposal of excreta, but where there is no competition the public, both male and female, is very much to "be damned" so far as such accommodations are concerned. Where great numbers make use of a toilet it is impossible to have ideal conditions, but there can at least be a fair degree of decency and of cleanliness. There can be no question that there is ample opportunity for spread of disease. Flies often swarm out from toilets to light upon the handles of bags and baskets and fruit and vegetables. But even if there is slight danger from such carriage of germs, foul toilets are in no way a means of educating

the public to better things. Indeed, where they do not disgust, they have the effect of encouraging such conditions. It would seem that such a public servant as the railroad might do its bit toward improving sanitation in general. The railroad is a heavy contributor toward the general unpublished tax which we pay for disease and it would be money in its pocket to do something by way of example in cleanliness. Cleanliness costs, but it also pays, not only in this general way of teaching by example, but more directly. There are many roads which consider it too much of an expense to furnish free toilet paper for their patrons. As a consequence newspaper is used instead, frequently with disastrous results. We saw one such result recently in the depot of one of the most important lines out of New York City, and the cost of getting the toilet room in condition again would have paid for all the paper needed in a year.

Nor can it be said that reasonably good free toilet accommodations are out of the question. The toilet rooms of the old Grand Central station were a model which impressed every traveler who had a sense of decency. A secretary of the board of health of a neighboring State was so impressed he interviewed the person in charge as to his method and means of keeping things sweet and clean. The reply astonished him. It was "We make a liberal use of soap and water." Where such places are clean the public has respect for them and does its part toward keeping them so. Where they are filthy, the public can do little more than make them worse.

We do not know whose business it is to see that sanitation of railroads is carried out. Apparently it is nobody's business, but we hope that some day strict rules will be adopted in such matters, with adequate inspection and heavy penalties for infringement. Under present conditions a good punishment would be to make the officers and directors use their own toilets.



Birth Control After the War.—Some months ago there appeared in these columns an editorial on Birth Control which attracted gratifying notice, both from those who opposed the principle, but who accepted the estimate and exposition offered in this editorial, and from those who favored the principle and were pleased to have a medical journal bolster their unpopular cause. It was made clear then, that in the view of the more intelligent sponsors of the cause, the problem was one, not of prevention, as most unbelievers imagine mistakenly, but of *control*. It is not a negative, destructive principle that is involved in Birth Control; it is a definite, constructive idea. The family is not to be destroyed: it is to be improved. Birth is not to be discouraged: it is to be regulated. Thus, instead of being hostile to the interests of society, it is distinctly friendly. Whatever one's convictions may be, one is obliged to acknowledge the excellent purpose back of the whole movement.

The educational campaign which Mrs. Sanger and her followers are conducting thru their official publication, the *Birth Control Review*, is of especial interest at the present time. There has been a good deal of hysteria in the cry that has been raised, since the conclusion of the war, for greater production and for increased population. Ten million strong men died during the four years of war, and countless others were maimed beyond helping. The world feels this deprivation and, in a panic, is crying for more workers and better ones. As after all previous wars, numerous artificial and unsatisfactory methods will be employed to encourage the raising of larger families, the restoration of depleted populations. After the Franco-Prussian War, both France and Germany resorted to desperate and not always commendable measures to increase their spent populations. In

France, the war was responsible for the introduction of maternity subsidies and other measures which were too promiscuous and too indiscriminate to be of any real value. In Germany, the Kaiser went so far as to promise an autographed photograph of himself to the parents who brought a fifth (or was it a seventh?) child into the world. Doubtlessly these rewards and aids did help somewhat to increase the population, but the appeal was especially directed (and unfortunately) to those elements who could not add most vitally to the needs of the nation. There were no terms of qualification. The convict, the feeble-minded, the diseased, were as much encouraged as the others, probably even more, for the promise of a stipend or an autographed photograph is hardly likely to appeal to the sound, intelligent elements in a community. And the possibility of just such unintelligent, promiscuous efforts to restore our own populations is quite imminent. It is to defeat these efforts that the champions of Birth Control are now directing their efforts, pointing out that, for once, a real effort should be made to achieve quality and not quantity, to encourage the healthy, intelligent men and women of the world to reproduce themselves as a duty to the state as well as to themselves and their fellows.

The Heritage of the War.—Europe is starving. Countless men and women, subjected to four years of unprecedented strain, have come out of the ordeal worn and torn in body and nerve. Disease is finding a ready field for its ravages. And even in those countries which have come out best, there is much malnutrition and low vitality. It is from such a race that the future generation is to come. To encourage such men and women, scarcely able to provide for their own needs and comfort, to give the world its future citizens is to invite the

breeding of a race of weaklings and neurasthenics. And yet that would be the effect of indiscriminate encouragement in that direction. It is from the strong, from those who were least affected by the strain of the war, that our future citizens should come; and no method will be effective that does not recognize this point. The advocates of Birth Control are urging this point. They declare that the world will not be the better for an increased promiscuous population, the product of the least fitted members of the community. It is not a question of numbers; it is a question of quality. It will not solve the industrial problem if there are two men for every job, when these men can do only half the work they are expected to do. Even employers acknowledge that, tho there is a shortage of help everywhere, their chief complaint is against the lowered productivity of the men they can obtain. The aim, therefore, should be not quantity, but quality. And it is this aim which the followers of Mrs. Sanger have made theirs. It may be said, in criticism of Birth Control, that it has emphasized too strongly its insistence that the poor should exercise greater control in their fertility, but it should be borne in mind that their opponents have always spent their chief efforts on just that class, encouraging them beyond all consideration of the good of the race to multiply and replenish the earth. Rarely have the better elements been affected by the race suicide bugaboo. The response has always come from that portion of the population which least served by its sacrifice. It is to correct this inequality that Birth Control has sought converts chiefly among the so-called lower classes. But if it has overemphasized its efforts in this direction, it has at the same time appealed to a class which its opponents have entirely neglected: the educated, well-to-do, sound elements who could most benefit humanity by raising larger families, the very elements who approved boisterously of fruitfulness and never accepted it as applying to themselves. To our minds, this seems preeminently fair. Mrs. Sanger has sought to correct ignorance in the lower classes with an intelligent knowledge of control, while among the more favored classes she has sought to replace an invidious practice of prevention with a more generous consideration of racial needs. If she has been repre-

hensible in her appeal to one class, her opponents have been even more reprehensible in their failure to appeal to the other.

Infant Mortality and Maternity Centers.—The natural sequel to the control of births is the conservation of the young during the critical months immediately after birth. Just as the Woman Suffrage Party, no longer having any reason for existence, gave way to a league for the education of the woman voter, who represents the reward of her efforts, so the Birth Control movement, having achieved its aim, may one day develop into an infant conservation movement. There has long been a pressing need for a concerted movement thruout the country of such a nature. It has often been pointed out in these columns that there are innumerable organizations whose aim it is to encourage the most modern, scientific methods in the raising of pigs, cows, horses and even bees, but only the most primitive methods have to suffice in the raising of infants, with a view to their greatest ultimate usefulness to the race. In view of this, it is gratifying to observe the excellent work that is being done by the Maternity Center Association. According to the report of Dr. Louis I. Dublin, chairman of the committee on records, "four hundred and ninety-five babies were born alive under the care of the Maternity Center, and of these only five died before they were a month old. This makes a rate of one for every ninety-nine births. The rate for the United States at large is one death in every thirty-six babies. Of the 495 births only one mother died. The average for the nation of deaths of mothers is one death in every two hundred. Do not these figures prove the value of prenatal care? More women die in the United States from causes incident to childbirth than from any other cause except tuberculosis. A large percentage of these deaths is preventable."

Dr. Dublin's report carries its own comment with it. His brief final sentence carries with it a moral which we have pointed out so often as to acquire no further emphasis. It is too depressing to speculate why the Maternity Center Association has not become a recognized and indispensable national institution.

Work Hours for Women.—It is a patent fact that women arrive at the point of exhaustion sooner than men. That is an industrial truism which no honest observer will deny. It is, therefore, amazing that Mrs. Florence Kelley, secretary of the National Consumers' League, should encounter so much stubborn and unenlightened opposition in her effort to obtain a shortened workday for women. Such a shortened workday would, in Mrs. Kelley's opinion, insure a higher productiveness, and would effectively spare the energy and health of the woman worker. Women and children, Mrs. Kelley maintains, cannot stand the prolonged strain of a long day as well as men and she referred recently, in an address before the League, to the experience of England during the war as an argument for shorter hours for women employees in factory and shop. When the women went into the munition factories during the early part of the war, in making their calculations, the authorities assumed equal sickness rates for both sexes in computing insurance conditions. This proved so great an error that very soon the government fund set aside for this purpose was exhausted and Parliament was obliged to guarantee the deficit caused by increased morbidity among women workers. Mrs. Kelley made her remarks in view of the fact that the Foley Bill for an eight-hour day for women and children factory and shop workers, now before the state legislature once more, is "meeting with unusual difficulty this year because of the silly cry that if you shorten the working day you reduce the product, just at a time when the whole world needs everything that can be produced." This opposition is hard to understand in view of the recent observations made by competent students, who found that the shortening of work hours for both men and women led to higher productivity, as it prevented them from spending exhausted hours on their work, thus making it impossible for them to return the next day fresh and competent for another ordeal. In the case of women, it has been more conspicuously true that a shorter day leads to better work, for the very reason that they reach their limit sooner than men. They are then obliged, if pressed to continue, to use their reserve energy, and they are worn out and become practically useless in a

short time. In self-defense, they acquire the habit of working slowly and sparing themselves even when they are fresh so that they may last the day. These facts should appeal to the economy of the average employer. That they do not is one of the mysteries of employers' psychology. But for the community there is even a more pressing necessity for the saving of women from exhaustive hours. After all, the future of the race depends on the women. What kind of a generation can one expect from a weary and spent race of women who, tho they have become providers and workers, must still go on with the task of motherhood? And having brought their children into the world, how much of their exhausted energies can they spare for the training and upbringing of their young ones? It may be necessary to consider this problem from an economical point of view, but it is absolutely imperative also to consider it from a racial point of view. That employers have shown themselves imperious to both aspects of this vital problem is one of the disheartening elements of the situation.

Prohibition After a Month.—During the past few months we have been drawing attention to the dangers involved in prohibition, not so much with a view to defeating the purpose of the champions of the new amendment, but in the hope of directing them toward the avoidance of consequences which are worse than the evil they were seeking to cure and which have invariably in the past followed a sudden change from an old habit. It is the opinion of the editors of AMERICAN MEDICINE that there is no cause so bad that some good cannot be said for it, nor is there a cause so good that some evil may not be pointed out in it; and it is the part of those whose effort it is, however humble, to guide public opinion, to direct attention to both the good side of a bad case and the bad side of a good case with a view to helping the public to a sound judgment. It may be that the views on prohibition that have appeared in these columns may have been construed as inflexibly hostile and unsympathetic, and in the hope of correcting such an erroneous view, we are glad to give space and consideration to a survey of the situation in

New York City after a month of prohibition. This survey was made by one intent on finding only the good that has come with the rigid enforcement of the amendment since January 16, and he has found much good.

First there was the testimony of Dr. M. S. Gregory, of the famous alcoholic ward of Bellevue Hospital. "One year ago," said Dr. Gregory, "we seldom had less than two hundred alcoholic patients here at one time. Frequently we had more than four hundred. Now we have none." Certainly that is a most heartening advance, and it is to be assumed that the experience at Bellevue is the experience of all hospitals which made a specialty of such cases. The burden on the overtaxed hospitals is in a measure relieved, the taxpayer is delivered from one of his many obligations toward his weaker fellows, and the services of a number of physicians are released so that they can be used in more pressing and more vital work. Then there is the testimony of the rent collector. "Prohibition has completely revolutionized my business," said one of them. "Rent collecting in my district used to be one of the toughest jobs in the city. . . . I don't think it an exaggeration to say that 95 per cent. of evictions could be traced to drink." The money which should have paid the rent, he said, was often consumed in drink, and rent-day found the tenant without the necessary amount.

With the coming of prohibition, this money found its way into the family treasury. The wife could now count on a certain definite amount that could be laid aside every week out of the pay envelope, and at the end of the month there was always enough for the landlord. "I know also," he continued, "that this is not peculiar to my business. It holds good with tradesmen and merchants thruout my district, a poor one. I asked a grocer the other day if he didn't find that people were paying their bills more regularly. 'Bills?' he replied, 'I don't have any bills any more. People are paying cash these days for everything they get.'"

Furthermore, people are not only paying their bills more promptly, but they now manage to put more into the bank. Henry A. Schenck, president of the Bowery Savings Bank, pointed to the fact that in the first twelve days of war-time prohibition the deposits made with the bank increased

more than \$1,000,000 as compared with the corresponding period of the previous year. A well-known real estate dealer, explaining the boom in property, said that previously \$1,000,000 a day was spent on liquor. This money now went to merchants who dealt in legitimate goods and these merchants were obliged to enlarge their quarters or open additional establishments, thus encouraging building and investment.

The investigator found, further, that people, driven from their old haunts, the saloon, the café and the bar, were now turning to more wholesome diversions, such as the theatre and the moving picture and even concert halls. From the Police Commissioner he drew the reluctant admission that there had been a decided decrease in crime, and the chief clerk of the Marriage License Bureau reported that the number of licenses issued this year is greater by 1,000 than for the corresponding period in 1919. Thus it would appear that prohibition has brought about a reversion to the domestic virtues, to economies and enterprises of a nature to make for greater happiness in the home and greater prosperity of the individual. It is encouraging marriage and it is removing one cause, after marriage, of discord between husband and wife. And it is promoting general prosperity. No one will quarrel with these findings. For the most part they are accurate and true. They are the good that prohibition was expected to bring. But presently another investigator, otherwise minded, will set out to find the evil that prohibition had brought and, unfortunately, there will be much for him to report.

The Hand as a Means of Infection.—

The origin of the hand-clasp, as a form of greeting, has persisted thru the centuries in spite of the fact that its significance has disappeared. In the old days, when every man went about armed, it was necessary for two men, on meeting, to clasp right hands as an indication that, the right hand being the one wielding the weapon, there was nothing to be feared. It was a symbol of friendliness, a sign that there was no danger. Like most customs, this one has remained, tho conditions have changed completely. In fact, conditions have changed so thoroly that the hand-clasp has become a really dangerous and inimical gesture. In the old days the weapon which the human

hand bore was a sword, a pistol, or a bludgeon. Today the human hand carries a much more deadly weapon—the germ—and this weapon becomes effective only when hands touch. The hand-clasp, therefore, is something one should save for one's enemies and not for one's friends. The shaking of hands has altered its significance completely. Once a symbol of friendship, now it is a mark of hostility, or at least it should be. For, in the opinion of many authorities, the hand is one of the greatest conveyors of disease known to physicians. In fact, it is even more dangerous than the kiss, against which there has been so much agitation. For in the kiss, one is exposed only to germs which are transmitted thru the mouth, while in the hand-clasp the range of mischief is unlimited, as the hand is every moment subject to contacts of the widest range, functional and otherwise. Consider the number of things the unprotected hand touches during the course of an ordinary day: coins and paper money, circulated extensively and exposed to all kinds of conditions; rails, straps and door-knobs touched by innumerable other hands, with an unlimited danger of transmitting germs; contact with household pets, of varying degrees of cleanliness—perhaps uncleanliness would be more accurate; newspapers and periodicals which, from printing room to newsstands, have undergone manipulation and exposure of the most extensive nature; the handling of mail from environments that may be of the unhealthiest sort—the list is endless. And then this hand, exposed to such dangerous contacts, is offered in token of friendship!

When two Arabs meet, each touches his fingers to forehead, lips and bosom in token of friendship. The symbolism is obvious and the custom is a beautiful one. Certainly it is a more sanitary one than our own. In that respect we might very well imitate the Arabs. One physician regards the military salute as an excellent substitute for the hand-shake. It is dignified, respectful and answers the purpose. Anything would be preferable to the hand-clasp. But it is hard to get rid of so old a custom, and men will persist in it despite the very best reasons against it. That being the case, they should at least take the precaution to wash their hands as frequently as possible and wear gloves more or less constantly. At this time, while the influenza epidemic is still

active, such advice is imperative, for it is highly probable, in the view of some, that the hand has been instrumental in the spread of the disease. It should not be an occasion for offense if a man prefers to touch his hat in greeting to one of his own sex. If such a gesture is a symbol of respect toward women it should be considered equally respectful toward men.

Medical Politics.—Competition is often alluded to as one of the great promoters of progress, one of the necessary elements of civilization, and the chief objection to most of the radical political ideals is that they would destroy competition. In view of his recent speech, Bird S. Coler, Commissioner of Public Charities, is likely, one of these days, to be converted to Communism or Socialism for the very reason that they may destroy competition. In his speech, Mr. Coler excoriated the private charities which, he declared, competed on such unfair terms with the public charities as to confuse the work of the latter and do serious injury to the interests of the public. It is Mr. Coler's opinion that, during the influenza epidemic, much unnecessary suffering was caused by the failure of the private charities to co-operate with the city organizations, making the work of the latter difficult by competing with them for nurses, taking them from places where they were needed much more, and then coming to the public institution afterward and asking for additional nurses. The influence of the private charities, Mr. Coler asserts, is enormous, their political power unlimited, and they use it to the full. Medical politics, he says, (and here we are ready to agree with him without question of the facts) has killed more people in a year than any other cause except war. But Mr. Coler's chief complaint is the publicity which is given to the slightest achievement of the private charities, and the conspiracy of silence which seems to surround the work of the public hospitals. "Anything the Public Charities Department does is ignored by the newspapers," he protested. "Anything the Rockefeller Foundation does is praised to the skies. The Public Health Department was the first to adopt the Carrel-Dakin treatment. You never heard anything about that treatment until the private charities got hold of it." There is more

than a little justification in Mr. Coler's complaint, if one assumes the truth of his assertion that a large part of the money subscribed to private charity goes into the payment of fanciful salaries, while the bulk of the public charity allowance goes into actual service. We agree with him that "the public charities are doing a great and wonderful work," and we regret with him that "it is impossible to get any publicity against the subsidized and advertised private institutions." There is too much medical politics and too little sound cooperation in our municipal health efforts. And the press might do well to give a little more notice to the work of the city's excellent institutions.

Ninety-nine and Forty-four Hundredths Per Cent. Husbands.

—Having failed to bring about the long-sought single standard for both men and women, the female population of Glen Campbell, Pa., have decided to take matters in their own hands and make the double standard so uncomfortable for the men that, in self-defense, they will have to succumb to virtuous living. In an effort to improve the morals of the community, the matrons of Glen Campbell have decided to establish a "Moral Credit Bureau." This bureau will keep itself informed of the doings of the adult male population, keep each individual's record on file at headquarters, and submit a report to any woman who wants to know of the private activities of her husband or her fiancé. The men will be rated according to their innocence, the perfect husband or fiancé being recorded as 100%. Unfortunately, this innovation, tho splendid in its intention, is robbed of some of its dignity by the confession of one of its sponsors that it has a vindictive rather than a benevolent nature. It has too much the appearance of spite. The women of any community, said the sponsor, are too closely watched and they never can "get away" with anything, so an effort is to be made to prevent the men from "getting away" with anything. However, whatever the origin of the movement may be, its working out will be most interesting. We can conceive, a year from now, a young woman of Glen Campbell walking into the central bureau and making known her desire to choose a husband. The

clerk in charge consults her files.

"I'm sorry," says the clerk, "but we're all out of first-class husbands today. Would you consider a slightly damaged one?"

"I don't exactly expect an angel," says the modest maiden.

"Well, in that case," responds the clerk, "we may have something for you. Here, for example, is John Judd, rated at only 74.13%, slightly above the average, but not as satisfactory as might be. His percentage is brought down considerably by the fact that he is addicted to the vice of playing cards at least three times a week."

"Does he win or lose?"

"He wins always."

"He will do," murmurs the maiden, "and perhaps I will be able to reform him."

"Will you have him sent, or will you take him with you?"

Or a portly maiden may come in to inquire regarding her spouse.

"And how is my husband doing this week?" she will ask of the clerk.

"No better than usual—only 51.11%."

Tears gather in the matron's eyes. "I don't see why you can't give him a better mark this week," she protests, sobbing. "He's really a very good man. And this week he behaved so well."

"He didn't come home until two o'clock Wednesday morning," responds the clerk coldly.

"Yes, I know," answers the matron. "He explained to me. He was up with a sick friend. And John never lies. He's so honest. And I know he's a perfect dear. I don't know why you're so prejudiced against him. Smith's husband always gets such good marks, and I know he beats her almost every night."

"But he spends his evenings at home like a model husband," replies the clerk. "How he treats his wife doesn't matter. We keep records only of how men treat other women."

The matron sobs and dries her eyes.

"Has anyone asked for Francis Good-enough yet?"

"No," replies the clerk dismally. "His rating is still 99.44%. But none of the girls seem to want him. Isn't that strange?"

"I suppose it's because they want a real man," the matron suggests, "and not a cake of soap."



THE EVOLUTION OF MARRIAGE.¹

BY

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Marriage, biologic marriage, not ceremonial or contractual marriage, has evolved from sexual union in the course of animal evolution. This supposition is axiomatic. It needs no further proof. Any one who cannot see its verity is mentally blind. Biologic marriage, in contradistinction to temporary sexual union, is based upon a certain duration. Biologic marriage is the union of a male and female for the purpose of propagation which should last, at least, till the arrival of the offspring or till the latter is able to shift for itself.²

Traces of such marriages where the male

¹This short essay tries to treat marriage from the biologic-evolutionary point of view. If there be any truth in evolution at all, every human institution must be subject to its laws. This point has been more or less neglected by the great writers on marriage or at least not emphasized enough. This essay is based upon the data, furnished by these original writers, who in their turn, have collected them from the reports of hundreds of travelers or gained them by personal observations. These writers have amassed enough material to serve as an ever-flowing source for the most exacting specialist. But the very hugeness of the mass of material somehow engulfs the general reader, and he leaves their works bewildered and confused. Hence this essay.

²Letourneau (*L'origine de Mariage*, p. 26) says: *Chez les animaux comme chez les hommes l'association sexuelle quand elle dure, devient mariage, et il en résulte la famille, c'est à dire, une union des parents dans un but de protection pour les jeunes.*

takes part in the rearing of the offspring may be discovered already at a very low scale of the animal ladder. The biologic marriage being an offspring of the sexual union, it follows that it must be as instinctive as the latter. It is not a human institution as some radicals, on the one hand, and the ultraconservatives on the other, would like to make believe. Marriage, as a fundamental institution, is anterior to the dawn of human history. All the different kinds of institutional marriages found in history from the dawn of human understanding to the present day, among the different races, in different climes, at different ages, tho they deviate materially from the original biologic marriage, are excrescences of the original instinctive primordial type of animal marriage.

At the lowest scale of the animal ladder, no traces of marriage or of any union can be discovered. Propagation among these animals is accomplished by binary fission or simple division (Talmey, Love, p. 112). The body of the parent is simply divided into two equal parts, into halves.³ There is really no parent nor child in this kind of

³The fissiparous reproduction is found in Infusoria, Rhizopoda, etc. (*vide* Talmey, *Genesis*, p. 74). The agamic reproduction by fission is also found in the flatworm "planaria dorotocephalia." The infusorium "Stilonicchia" produces in six and a half days a mass of protoplasm weighing one kilogram. If furnished with enough food it could produce in thirty days a mass, a million times larger than our sun.

reproduction. The children, or the two new amœbae, *e. c.*, are the parent cut in two.

Another mode of propagation without any union is the "gemmiparous" reproduction, or the multiplication by means of buds. It consists in the breaking off of a part of the animal smaller than half. The budded-off part of the hydra, *e. c.*, develops into a new individual like the parent.

A third method of propagation without union is the so-called sporulation. The interior of the body of the animal subdivides into more than two parts. Sometimes the parts number many hundreds and are called spores. Reproduction thus occurs *ere sex*.

The strange phenomenon of the union of two animals is first observed in the chilodon, a fresh water infusorium. The mode of propagation of the chilodon is also by binary fission. It multiplies for a considerable length of time by transverse division. After a time, however, a certain fatigue of the animal is observed. It stops multiplying. Then it is seen how two animals place themselves side by side in pairs and partly fuse together. The nucleus of each individual divides now into two parts—nucleus I. divides into A and B, and nucleus II. divides into C and D—one of which passes from each infusorium into the other to unite with the half which remained stationary—half A from I. migrates into II., and half C from II. passes into I., so that the nucleus of I. consists of B and C, while the nucleus of II. consists of A and D. After having thus exchanged half of their nuclear tissue, the two animals separate, and a period of renewed activity ensues.

A complete union or fusion of two animals is first observed in the monad. After the members, as in the chilodon, have ceased to feed and divide, one monad fixes itself upon the sarcod of another, and the substance of the lower one passes into the up-

per. In about two hours the absorption of the lower by the upper monad is complete. Thereupon multiplication is renewed. Here the daughter animal is a composite of its two parents.

The same mode of union by absorption of one individual by another is found in the fertilization of colonial animals. Colonies arise when the daughter animals do not leave each other, but remain together. Within the colonies a division of labor takes place. While the majority of animals, or within a colony called cells, devote themselves to the task of procuring food a small part of the cells are set aside for the function of propagation.¹ These propagating cells unite into pairs and then the pairs fuse into ones, and only after their union begin to multiply. In the simpler forms of colonies the conjugating cells are all alike in structure and shape. In the higher kinds, the conjugating cells are differentiated. One kind of cells is large, spherical, inactive, and are called egg cells, analogous to the female egg cell in higher animals. The other kind of cells is small, with ovoid head, tapering tail, and are called sperm cells. These two kinds of cells, called sex cells are situated in groups called sexual glands.

In the lower classes the same gland produces both kinds of cells, the male and the female. In the hermaphroditic species of round worms, *e. g.*, the sex gland functions first as a testicle. The germ cells at the anterior end of the sex gland begin to di-

¹ Among the multicellular animals certain cells are set apart from the rest of the constituent units of the body as egg cells or sperm cells. These cells conjugate and continue to live, while the remaining cells, the mere carriers, as it were, of the immortal reproductive cells die and disintegrate. These perishable cells which form the majority of the body cells may be regarded as temporary non-essentials, destined merely to nurse and nourish the more important fission products of the unicellular germ cells.

vide rapidly, become small spermatozoa, and are stored away into a receptacle which may be called uterus. Thereupon, other cells of the sex gland begin to grow larger, store up yolk, and become large ova. These cells also enter the uterus and unite with, or are rather fertilized by their own stored up spermatozoa. This mode of self-fertilization is found in the leech, the tape-worm, etc.

In other animals the two different kinds of cells are produced by two different kinds of glands. The gland which produces the egg cells is then called ovary, that which produces the sperm cells is called testicle. Testicle and ovary are situated either near each other or at different parts of the animal. In these hermaphroditic animals the sperm cells fertilize their own egg cells, a union of *quasi* brother and sister. This mode of self-fertilization is found, *e. g.*, in the feathworm.

In the earthworms cross-fertilization takes place. Two earthworms mutually fertilize each other. The sperm cells of one A fertilize the egg cells of the other B, and the sperm cells of B fertilize the ova of A. This mode of cross-fertilization is found in almost all phanerogamous plants.

When we rise a step higher in the scale of animal life, it is found that egg cells and sperm cells are almost always produced by different individuals. The testicle carrier is then called male and the ovary-bearing animal is called female. The new being is formed by the union of two cellular elements of two different animals. The former chemotropical attraction between spermatozoa and ova is now transferred to the hosts. The erotic chemotropismus between two different cells has now grown into sex-attraction between two animals. Sex-instinct is thus an offshot of the instinct of propagation. The two animals are driven

toward each other for a certain purpose, altho the purpose is unknown to them.

In most of the lower animals the attraction is of short duration. It lasts only during copulation and ends with the act. The two animals leave each other at once, generally never to meet again. Marriage among them does not exist yet. But already among very low animals a certain kind of marriage, or a union lasting beyond the sex act, may be discovered. The toad of Surinam, *e. g.*, after helping his female in the operation of laying her eggs, places these eggs on the back of his companion.¹

Lasting marriages unto death which may

¹The obstetrical toad embraces his female with his fore-legs around her lumbar region, and working continually for days squeezes out the eggs from her body by the pressure of his fore-legs. At the same time he pulls the spawn cord with certain movements of his hind-legs. As soon as the eggs leave the female cloaca he gushes forth his sperma over them.

In *Alytes* *Obstetricans* the gelatinous mass which surrounds the eggs remains hanging on the male's hind-legs. By executing certain motions with these extremities, he twists the spawn cord around his legs where the eggs remain thru the entire embryonic development under a temperature of about 17° Celsius for five to six weeks.

When Paul Kammerer, in trying to determine the transmissibility of acquired characteristics (*Archiv f. Entwicklungsmechanik der Organismen* 1909, p. 448), put *Alytes* pairs under a temperature of 30° C., the male ceased to give his help to the female, and the latter had to help herself by fastening the spawn cord to and twisting it around some object. When the young *Alytes* of this breed were returned to the normal temperature of 17° C. the males still neglected to give help to their females. This change of instinct lasted for four generations. By degrees the former male instinct of nursing the brood returned. The mneme, as the preservation principle in the change of organic development was in abeyance for four generations only.

This tends to show that when the male help, under a changed environment, is not absolutely necessary, the instinct is lost for a time and returns when the necessity returns. The same happened in man under the mother group where male help in rearing the children could be dispensed with. The monogamic instinct returned under the pairing family when his help was again required. This instinct has survived in the permanent pairing instinct which is never satisfied by temporary matings in normal men and women.

even serve as an example for imitation by man of the present day are found among many species of birds who combine their efforts in rearing their offspring. Male and female sit alternately on the eggs, and the one party which is free provides the necessary food for the one which is sitting. Both parents teach their young ones to fly. The homing pigeon nourishes his female while the latter is hatching. Widowhood in the parrot *Psittacus Pertinax* is synonymous with death. When a Hypolais dies the companion survives a short time only. Ernest Thompson Seton (*Life Histories of Northern Animals*, p. 757) found that hawks live in monogamy. The Canadian wild goose, when it has lost its mate, will never seek another. The wild duck lives in strict monogamy.¹

Among mammals, the males of those animals whose young are not easily provided for, remain attached to the females they have secured at the first period of rut, provide mutually for their offspring till the latter can provide for themselves, and at each succeeding period of rut yield again to love and never seek a new mate. Thus Seton found that wolves consort for life, and in case of death, the survivor remains alone. Almost all beasts of prey live in monogamy. The Macac (*macacus silenus*) has only one female and is faithful to her unto death. The anthropoid apes are, as a rule, monogamous.²

Now, judging by analogy, the prehuman

ancestor of man must surely have lived in monogamy, especially since the length and feebleness of human infancy required a union of male and female of considerable duration.³ By the time the last child was able to emancipate itself from parental protection the period of sexual activity had been passed. Permanent mating in the prehuman stage of man was thus of the greatest survival value. It was necessary for the protection and preservation of the lives of a lesser number of offspring of a higher grade. Without the help of fatherhood afforded to motherhood the human race would not have survived the prehuman stage. Individualism, or instinctive monogamy, and not communism or promiscuity is the starting point of human evolution. The permanent mating instinct of the man-ape was transmitted to the ape-man.

The transition from ape to man took somehow the following course: During a certain dearth of vegetable food, a certain anthropoid ape happened to strike upon the feature of using animal food. In this way the frugivorous, arboreal animal became a terrestrial, carnivorous animal. Originally a fruit-eating animal, his teeth and jaw were not adapted for carrying off his prey, and he had to use his fore-extremities for this purpose. Hence his locomotion had to be effected by his hind-legs only. The quadruped became a biped and assumed the erect

¹ Only under domestication does the duck become polygamous, just as man, while roving from tree to tree he was monogamous, when he settled in caves or fixed abodes polygamy appeared.

² The length and feebleness of the young of these animals are quite considerable. The baby gibbon is not fully mature till 14 years of age. The Orang Utang depends upon the mother for two years and is not fully adult till 15 years of age. The Siamang male gibbon takes care of his young in the same way as the mother. On their wanderings from tree to tree, the father carries the male baby, the mother the female

baby. Some gorillas form an exception according to some observers. They are said to live in a kind of patriarchal family. Still these observations may only be mistaken interpretations.

³ Among all animals the prenatal period and the period of maternal feeding are almost the longest in man. The helplessness of the human infant is unique. The new born baby is devoid of nearly all instinctive capacities except the intake of food and metabolism. It is perfectly naked, without fur or feathers, still is easily injured by cold. It is unable to stand or wander in search of food, still is unable to fast longer than a few hours. In short the human infant is a picture of complete helplessness.

posture. The quadramanous arboreal man-ape raised his head from the earth heavenward and changed into a bipedal terrestrial ape-man.

As a hunter of small animals it was of great advantage to the ape-man to live in packs like the wolves, and like the wolves he lived in strict monogamy. During the hundred thousands of years¹ these ape-men lived in packs, they perfected their animal qualities and humanized them.² The breed constantly improved. Those not in possession of the higher attributes were eliminated in the struggle for existence. Millenium by millenium the mind of the ape-man was expanding into steadily widening realms, till the brute creatures have been changed into human beings.

The final conversion of the animal into the human took place when man learned the construction and use of arms, as bow and arrow. These weapons made him independent of the pack. He could attack and defend himself without outside help, and monogamic pairs could now set up separate households in caves or in groves. Hence those tired of roving did separate from the pack and settled in separate abodes. Such fixed habitations of the parent-groups arose about the beginning of the glacial age. Wealth was unknown among such families. Clothes in the hot climate were of no necessity. Fruit and water were always present, and with the help of arms animal food was easily procured by the men.

¹ Between the time the man-ape left his arboreal abode and adopted the life of a hunter and the period of *pithecanthropus erectus* lies probably a gap of a million and a half years (C. Read, *Brit. Journ. of Psych.*, June, 1917, p. 413).

² The constructive impulse of the bird and beaver, the language of the dog, customs of the gibbon, discipline of the gibbon, claim of property of the dog, solidarity of the hive, are all animal qualities which needed only humanizing influence (*vide* Talmey, *AMER. MEDICINE*, Nov., 1918).

Within the fixed habitation a division of labor between the sexes took place.³ The task of the protection of the family and of procuring of animal food by hunting and fishing was taken up by the male while the labors and cares connected with the preservation of the race were naturally placed upon the female. In this way an entire family gathered around the pair and a structureless parent group was formed.

Within the enlarged family all the brothers or males took care of the food supply, while all the young females or the sisters took care of the children.⁴ The help of the individual father in the rearing of the children was no more of any necessity, and under this primitive domestication, man became like the domestic duck polygamous. Not only the young brothers indiscriminately copulated with their sisters, but parents commixed with their children.⁵

Such promiscuity within the enlarged family or clan was still found in vogue by Cæsar in Britain and by Strabo in Ireland.⁶

³ When a division of labor is created by nature, male and female characteristics become more pronounced. The lower a group of men stands on the ladder of culture the less marked is the bodily differentiation of the sexes. Among the lowest members of the animal kingdom there is no individual distinction of sex. With man's assumption of the erect posture, the distinction of the sexes became a condition *sine qua non* (*AMER. MEDICINE*, April, 1918, by Talmey).

⁴ Only by social solidarity within the group could the group itself be saved.

⁵ Some tribes remain static, did not progress, and are living in the monogamic state to the present day. The Davidian Veddahs of Ceylon, anatomically and intellectually the most backward races of mankind live in strict monogamous unions which last until death, just as the ape-man lived in the pack stage.

⁶ The natural innate aversion of the female to blood chaos (Talmey, *AMER. MEDICINE*, July, 1917) still kept the fastidious loosely together in pairs. Generally sex life within the clan became promiscuous between parents and children and brothers and sisters.

I. H. Morgan (Ancient Society), who more than any other writer on marriage, laid particular emphasis upon the evolution of marriage and who showed that endogamy and exogamy

Thru the female horror against the sexual approach in general, and of the human female at certain periods of her life in particular, which coyness made wooing a necessity, she ruled the male adult population of the clan. The parent group was thus superseded by the maternal family or the exclusive recognition of blood relationship in the female line. Matriarchate became the recognized rule of the clan. At that period of development the female was economically independent of the male. The products of hunting and fishing were not an absolute necessity. In the tropical forest fruit and water were always on hand. Male and female were joint tenants of the same cave. There was no dominance of male over female. On the other hand, the male depended upon the female for the satisfaction of his sexual needs.¹ Thruout the entire animal kingdom copulation is impossi-

ble without the consent of the female, and she never gives her consent except when she is inclined to. This gave the female the dominance over the male.

The sexual necessity of the male made the body of the female an awe-inspiring object (Talmey, *AMER. MEDICINE*, Nov., 1918). The man was appalled by the massive force and the stupendous power the body of the female had over him, especially at the obsessional periodic pairing among savages. He dreaded the erotic impulse and feared the body that provoked it.

Another reason for female predominance was the religious inspiration emanating from her propagating activity. By the time the period of the mother group had been reached, man's mentality had grown to such a degree that, childlike, he began to ask for the cause of things, and one of the greatest mysteries for him was parturition.²

are only two different evolutionary stages of the development of human sex relationship common to all peoples, starts his researches with the organization of the mother group and its inordinate promiscuity as still found among the Australian Kamilaroi.

¹The recoiling nature of the female among all higher animals—she throws obstacles in the way of too speedy union—makes wooing a necessity.

If the law of sexual selection holds good in man as in the animal, woman must have the liberty of choice in marriage. Especially in the primordial state of the mother group she alone had the choice like the animal. It is not known that an animal ever rapes his mate. He woos her. The bull is stronger than the cow, the stallion stronger than the mare. Still they woo their mates and never apply force. Surely the primitive male did not rape his mate. No woman has ever been raped by a normal male anyhow. The raper is always a degenerate. The normal man is impotent in the presence of a struggling female. Even the king of the Persians has to woo for the favor of his wife. The slave is here master. Force may effect submission in her, but it weakens potency in him. Even icy frigidity renders the man's sex relations impossible. The vast number of comparatively young men suffering from all kinds of impotencies is mostly due to the indifference and the grumble of the wife, discontented to rear children. These sufferers are found among the very best of society, because they disdain to break their marriage vows and with their discontented

wives they are impotent. The aristocrats of love suffer from idiogamy. Carnal relations are impossible for esthetic, ethic and social reasons.

Force, therefore, did not play any rôle whatsoever in the sex relationship of primitive men. The story of primitive man knocking down his female with a club and dragging her to his cave to marry her, sounds well in a newspaper, but it is a silly myth just the same. Primitive man wooed for the consent of his female. Marriage by rapture or purchase is already a child of civilization, removed from the mother group by thousands of years. Within the mother group the female maintained control over her body and thus ruled the man.

²The first three phylogenetic stages may be compared with the first three ontogenetic stages of the child. The infant stage of the child represents the arboreal stage of the race. The infant leads a purely vegetative existence. So did the race on its trees. For countless generations, millions of years, the man-ape led a purely vegetative life. Early childhood to the age of four, when the child learns to walk, speak and accumulate other knowledge, may be compared with the pack life of the race. The assumption of the erect posture represents the birth of humanity. The race broke thru the bounds of tellurism and directed its looks upward to the higher regions of the cosmos. During the thousands of years of pack life man was continually groping for knowledge like the child. When he learned to construct means of defense and attack he entered the third period of the mother group, compared to the childhood between the

He was not advanced enough to recognize the father's relation to the child, but he saw the door by which the child enters life in this world. It did not require great judgment of discernment to identify the female with the giver of life. The birth of a child awakened in his primitive mind the greatest awe, and what gives rise to awe is attributed to a spirit. Gestation, parturition and lactation are sensory phenomena and matters of simple observation. But who placed the child within the female body but a spirit? Hence the door by which the child enters life, the Yoni (From the Sanskrit, akin to the Latin *janua* the door) became an object of supreme reverence and worship. The body of the women became the temple of life to come, hence the holy of holies. Thus the queen mother became at the same time the goddess of the clan.

The ignorance of the germinative power of marital relations which was the reason for yonic worship was also the cause of free inordinate chaotic sexual relations prevailing within the mother group. During the two earlier periods of the race instinct determined man's sexual behavior. The prehuman lived in pairs like his anthropoid cousins, because only those individuals survived in the struggle for existence among whom the male shared in the task of rearing the young. The polygamous perished. In these earlier relations there was no conscious realization of marriage or family. In

the animal, kinship between parent and offspring is unknown, blood does not tell.¹ Parenthood is instinctive and instinct not seldom leads astray. The variations among whom the male felt the instinctive obligation to share in the rearing of the children had to live in pairs where the male could protect,² mate and brood. But as soon as man settled down in fixed abodes the male's share in the rearing of the brood was of no great necessity, and the parental instinct degenerated, just as in Kammerer's *Alytes* obstetricans. The purely animal instinct was thrust into the background. The impairment of instinctive guidance and the loss of the former directing impulse, which had not yet been replaced by intelligent insight resulted in fatherhood being an unknown concept within the mother group.³ The man had no children. His part in the propagation of the kind was still veiled in ignorance.

With the loss of instinctive animal knowledge and the lack of intelligent human enlightenment, the only thing that kept him attached to the group was the great fundamental mating instinct. The regulation of these instinctive activities, just as the instinct of hunger or thirst, was not called for, as long as the connection between copulation and propagation has not yet been recognized. The result was that within the mother group, inordinate chaotic, sex activity prevailed between parents and chil-

ages of four to ten years. One of the first questions of a child of this stage is "where do children come from?" Man asked the same question only in a different form. He knew the door where the child enters life, but he did not know who placed the child there. He had no notion of the germinative function of conjugal intercourse. Mating and birth had as yet no interrelation for him. So he attributed its cause to a god.

¹The chicken will rear and protect the chicks she hatched out from eggs not her own. Her

impulse is to care for the young she has hatched altho they are not of her blood.

²In the very primitive state, the natural means of subsistence sufficing, the male chooses the place of abode in a cave or grove to protect his mate and brood, his attraction to the brood being purely instinctive.

³Many authors emphasize the uncertainty of paternity at this stage of development. But it may be stated without fear of contradiction that the father's relation to the child was not even surmised at this period.

dren and brothers and sisters.¹ Only the female innate horror of blood chaos kept some pairs loosely together,² and these very pairs formed the nucleus for the later reforms.

Such pairing was naturally formed among the younger members of the clan. In animals and among savages the female has the freedom in the choice of her mate. Young adulthood selected young adulthood. The aristocrats of love refused to commix with the older generation. The psychic choice of the young female naturally fell upon the young healthy mate, and the offspring of such pairs naturally surpassed in health, strength and beauty, the offspring of the chaotic relations. This led

¹ The expression "inordinate chaotic sex activity" must be taken in a qualified sense. Savages are not so strongly sexed as often supposed. It is the restraint in modern times that creates the obsessional feeling. Emotions modified by conventionality cannot be compared with those within the freedom of the cave or grove. A person in a train without the facility for relieving his desires for micturition or defecation may be driven to despair by the restraint, while in normal conditions he scarcely takes any notice of such calls of nature. The sexual freedom of the grove made small impression upon primitive man. Undue importance to sexuality is a modern product, and even in the modern world the robust and virile men are, as a rule, chaste. The dyonisiac soul which glorifies sexuality and never frees itself from its bounds betrays the characteristics of the weakling. Such a man is sexually depraved. In the presence of a skirt, such a modern man is mentally unbalanced, he is sex-obsessed. Such a man, within the mother group, with its prevailing general nudity, would walk around in a perennial priapic attitude. Not so with the healthy savage. Nude loveliness had no provocative effect upon the onlooker then as the suggestive bedecking of the nude body has in modern times. General nudity is no excitation to lust. The close association between the male and the female members of the small mother group had the effect to blunt the overkeen edge of the sexual appetite. The result was that connubial relations were less frequent than we would naturally imagine.

² The woman who is willing to have any number of children by promiscuous fathers is not normal. She must have some permanent relation to the child's father. This impulse is due to cryptomnesic memories of the bygone monogamic unions.

to the taboo of promiscuity.

Toward the end of the promiscuous stage paternity became better understood. Man's mentality had grown to such a degree as to recognize the male rôle of propagation. When man reached this stage of civilization and intelligence and gained the true insight into the relation between copulation and propagation he began to regulate and consciously to direct the forces of nature. He became ethical and tried to restrict his passions, and the consanguineous family was established. The promiscuous intercourse between the sexes tended to pathologic conditions, unfavorable to fecundity,³ and infecundity among savages leads to ultimate destruction.

When the dysgenic factor of promiscuity was recognized a taboo was declared between parents and children, *i. e.*, between two different generations,⁴ but intermarriage between brothers and sisters remained in vogue as before.

In this so-called consanguineous family the woman as the queen goddess still ruled the household which by this time had become more elaborate than within the cave or the grove of the mother group. Altho the father's importance in the propagation of the kind was well known within the con-

³ Prostitutes seldom bear children. The planters in the West Indies endeavored to form their slaves into families, because promiscuity produced infertility.

⁴ In this essay the main types of human marriage are described. The advances were made by the select. The stragglers fell behind the rest at every advance and remained static in that stage in which evolution slackens its pace, stops, and falls asleep in the road. Thus Caesar found the mother group still in vogue among the Britains, Strabo among the Irish.

St. Jerome (*Ad Jovianum* I. 11) found it among many tribes of the Orient. *Persae, Medi, Indi et Ethiope cum matribus et magis cum filiabus et neptibus complantur.* Curcius (VIII, caput IX.) says: *Satrapes erat sysimithes, duobus ex sua matre filiis quippe apud eos (Bactrianos) parentibus stupro coire fas est cum liberis.*

sanguinous family, as to create a new sex worship, the phallic cult, still economically the father played a subordinate rôle at this stage of human evolution.

In due time¹ this kind of marriage relation was also found unsatisfactory. Man discovered that children born of consanguinous parents were usually of unsound constitution. Self-fertilization in the vegetable kingdom produces degeneration and infertility. Close inbreeding among domestic animals leads to infertility and degeneration. These phenomena were observed by the leaders of the clan to appear within the consanguinous family, while some of the females who once in awhile had sex relations with males of neighboring clans, or the women captured in war, gave birth to physically and mentally strong offspring. For this reason the consanguinous marriage was also declared in taboo.²

Since the relationship within the clan was uncertain as to exclude incest,³ the male had to leave his mother's clan and marry into another clan, as a rule, of the same tribe.⁴ Man became exogamic.

In this so-called punaluan family a group

¹ A marriage period as here described does not mean a thousand, but hundreds of thousands of years. From the first traces of man in the glacial period to historic time lies a space of about a million years. This divided by the five marriage periods would make for each about two hundred thousand years.

² The consanguinous marriage left traces as far forward as the historical period. In Athens the law allowed brother and sister to marry, provided they had no uterine relationship. They must not be homogastric. They may have the same father, but not the same mother. The law of Lyncurgus, on the other hand, allows the marriage of uterine siblings, but not homopatric, or paternal brothers and sisters (Plutarch).

Abraham was married to his parental sister. Amnon wished to marry his paternal sister, Tamar. So the law must have allowed it as far as the time of David.

³ Incest acquired wide unpopularity by the racial experience of its evils and the incest taboo found among the most widely separated races of the world is the expression of the racial memory.

of men, mostly brothers, left their mother's clan and married a group of women, mostly sisters, of another clan of the same tribe. The group of men were conjointly married to the group of women.⁵ The father is not known as yet. The children know their mother only, hence only uterine kinship counts. Inheritance follows in the female line. The child belongs to the mother's clan and has her totem. Thru the exclusion of the marriage relation of brothers and sisters, exogamy became imperative. Men and women of the same totem, who may be brothers and sisters by the same father, cannot enter into marital relations.

In this punaluan family which is still in existence in Polynesia, the child does not know his father, but he knows his mother's brother, who, if married, is the joint husband of a neighboring clan's women. When this uncle dies his arms and clothes, his only personal belongings, are returned to his former clan, and the nephew inherits his uncle's property. Within the punaluan family the closest relationship exists between the nephew and the maternal uncle.⁶ It is upon the nephew the uncle depends for aid when in danger and for revenge when

⁴ (Genesis II. 24) Therefore shall a man leave his father and his mother and shall cleave unto his wife.

(Genesis XXVIII. 2) Jacob is sent away from his clan to take a wife from his mother's clan.

⁵ A deviation from this kind of family is the polyandric type still found among the Nairs. The woman lives with her mother and brothers and chooses her husbands among the members of the tribe. Caste, kinship, and inheritance are in the female line. No Nair knows his father.

In the polyandry of Tibet, the wife lives in the home of the oldest brother, where all his brothers are her associate husbands. The children are assumed to belong to the oldest brother.

In the levirate of the Bible the widow of the oldest brother remains in the family of the younger brother, and her children by him belong to the dead man.

⁶ Punalua means uncle. The close relationship between uncle and nephew gave to this form of family its name.

wronged, and the nephew looks to the uncle for the same ministrations.¹ The uncle is the representative of the nephew, and the nephew is given the uncle's name. The grown-up son is the representative of his sister.² She does not know her father. All the males of the older generation of the clan are her fathers, and she calls them so. She relies upon her big brother for protection, and her brother may count upon his mother's brother when he is in need of male help.

Within the punaluan family, more even than in the former stages, there was more or less loose pairing without exclusive cohabitation. Each man had a principal wife besides the other women, and each woman had a principal husband besides all the other men of the clan, with the only difference that assortative mating is principally a trait of the female. In time this occasional pairing became general and led to the pairing family as still in existence among the Iroquois in America and the Tamils of Southern India. Within the pairing family the child knows his father for the first time in the history of human marriage. Still matriarchate prevails.³ The pairing family formed later on the nucleus for the patriarchal family.

At this period the first traces of taming animals and of breeding herds can be discovered. This furnished an abundance of food, and with the abundance of food the

male comes into ascendancy. The males, the hitherto providers of animal food, are naturally the possessors of the herds. At the death of the husband, these herds had to be handed over to his mother's clan, according to the established law of matriarchate. Hence a perpetual change of possession was going on. To avoid this a change of descent from the female to the male line was established.⁴ Not the common queen-mother-goddess, but the king-father-god is now the ruler of the clan. Matriarchate gives away to patriarchate, the mother-group is changed into the father-group.

Inheritance in the male line required strict female chastity, and this has been exacted from her since.⁵ The patriarchal family is characterized by the exclusive cohabitation of the female while no restriction was put upon the sexual activity of the male. The patriarchal family represents a

⁴ Even when inheritance was in the female line, when the material wealth was transmitted from the mother to the children, still rank and authority descended from father to son, as soon as the father's relation to his children was recognized. Authority depended solely upon brute force even when the chief basis of blood relationship was kinship thru the mother.

This is shown by the report of Herodotus (II. 143). This author counted 345 statues of chief priests, one the son of the other in masculine line. This tends to show that in the priestly caste in Egypt for 345 generations or 10350 years before Herodotus the rank descended in the male line. Still matriarchate reigned in Egypt, according to Diodore.

⁵ Magalhaes found all grades of marital relations in the Indian families of Brazil from community of women to strict conjugal fidelity where women who committed adultery were punished by being burned.

He describes the communism of wives among the Cahyapos as follows: As soon as the girl reaches maturity she chooses a man who pleases her. When she conceives by him she is maintained by him during gestation and the nursing of the child in his cabin, together with other women who are in the same condition. As soon as she is able to work she is free to cohabitate with the same man again or to select another man, who has to support the earlier offspring.

¹ This tender solicitude and benevolent interest between nephew and uncle remained even into the historic times. Tacitus (Germania 20) reports: *Sororum filiis idem apud avunculum, qui apud patrem honor.*

² Eliezer wishing Rebecca for his master's son carries on his transactions with her brother Laban (Genesis XXIV. 50, 53, 55), the father plays no rôle.

³ Such a state prevailed in the early history of Egypt. According to Diodore (I. 27) monogamy prevailed in Egypt, still matriarchate reigned in the family.

group of persons under paternal power for the purpose of holding lands and for the care of flocks and herds. The patriarchal family is the extension of the loose pairing in single pairs which existed thruout all the periods of promiscuity, consanguinous family, punaluan family and pairing family, with the only difference of the exclusive female cohabitation. The man is allowed extra-marital miscegenation with concubines besides his gentile wife.

While in the former periods women captured in the frequent raids and tribal wars became the joint wives of the entire male population of the clan just as the clan or gentile woman was,¹ in the patriarchal family such captured and purchased women² became the exclusive property of the patriarch. The pairing family thus degenerated into polygyny, and even the gentile woman lost her full previous economic independence.

Still her influence was as great as before. The concubines were her slaves, and their children belonged to her. Sarah makes her slave Hagar first the concubine of Abraham and then drives her out of the house. The same maneuver of making the slaves the concubines of the patriarch is repeated by Rachel and Leah. Thru the control over her sons, the gentile wife ruled the entire family³ even in the patriarchal household.

The patriarchal, polygynic family of the Semites is thus seen to be practically mon-

ogamy with loose male sex morals. In the patriarchal Roman family, under the *potestas familias*, the gentile wife and daughter and even son had no more rights than the slave. The *pater familias* had the power of life and death—*vitae necisque*—over his wife and children, even over sons who held already the highest offices of the state. He is king and priest of the household. He is the administrator of the family property, which on his death devolves upon the universal successor by agnation, *i. e.*, by the system of tracing kinship thru males.

Still even in Rome, where exceptionally a Cato could lend his wife to his friend, the *potestas* was a dead-letter-right. The husband was not the only priest in the household. The wife, from the first kindling of the hearth-fire of the new household at the nuptials, remained the co-priestess and helper of her husband in the sacred rites of the Hesta-Vesta cult, or the worship of the sacred Hearth. Thus even in Rome the housewife is not the chattel of her husband. She is a free woman⁴ and shares in the husband's highest sacred functions. Neither did the adult Roman consider himself less free while his father was alive, altho the *potestas* of the father did not cease over the son, even he be consul of the Roman empire. The son's marriage did not alter the father's *potestas* either.

Among the Greeks, the sons became partly emancipated when they married and established new households, and entirely so upon the father's death after the final division of the property. The wife is the husband's partner in domestic economy and in control of her children. The father may sell his minor sons and his unmarried

¹ For that matter every man was the joint husband of all the women of the clan, including the captive. There was no discrimination between the sexes.

² Gentile women were never purchased or sold. Only strangers outside of clan were bartered. "We are considered strangers by him, for he sold us" (Genesis, XXXI. 15).

³ "Thou shalt honor thy father and mother," and "A man shall fear his mother and father." These two commandments make the adult son dependent of his mother, and she exercises joint control over her children.

⁴ When Vituria says to her son Coriolanus: *Nisi te oh Manli peperissem libera liberaque in civitate mortua essem*, then she considers herself free, *libera*.

daughters, but only the labor of the youth, not the person itself.

The complete emancipation of the adult son seems to have been the rule among the Hebrews. When Judah was informed that his widowed daughter-in-law had violated her chastity he sentenced her to death by fire. He was the sole judge in his own household, altho his father, Jacob, was still alive at that time. The wife had great power in the Hebrew household. When Jacob wished to leave his father-in-law he first consults his wives. God's command to Abraham, "In all that Sarah shall say unto thee, hearken unto her voice" (Genesis XXI. 12), was binding for all future Hebrew households.

The institution of concubinage during the period of the patriarchal family prevailed mostly among the chiefs.¹ Even at the present day among polygamous nations a very small percentage lives in polygamy, and in these polygamous families a higher position is given to the main wife. She possesses superior authority and is the mistress of the household, the other so-called wives are in reality only concubines. The real wife must be of the husband's rank, not the others, thus tending towards monogamy.

The reason for the prevalence of monogamic pairs in the individualistic, and even within the communistic society, was in the first place the monogamic nature in man.

¹ Tacitus in his *Germania* reports that among the ancient Teutons monogamy generally prevailed, only some of the princes had concubines besides their wives. The present Germans are proud of this fact. But the same may be said of polygamic countries as well. Thruout the entire Biblical history of polygamic Judaism only eight or ten polygamous marriages are reported. In polygamous Persia at the present day only 2% live in polygamy, in Turkey only 5%.

Among the Dazaks, says Letourneau, even the chiefs lose the consideration of the people and see themselves losing their influence, if they allow themselves more than one wife.

Again and again thru the entire history of marriage the kryptomnemic memories drove man to the monogamy of the anthropoid stage.

Naturam expellas furcæ tamen usque recurret.

The hard struggle for existence also forced upon primitive man the need of economic cooperation of the two sexes more lasting than the pairing instinct. The primitive marriage of the animal has its origin in the most concrete and prosaic requirements of rearing their offspring. The hard struggle for existence during the patriarchal period forced the majority of men to be content with one mate.

Another reason for monogamy among the masses was the equilibrium of the sexes. Where all marry few men could have more than one wife. The proportion between women and men in favor of women is very slight indeed. If it be true about the general infanticide of girls, so many would-be thinkers are drivelling about, polyandry rather than polygyny ought to have been in vogue.² There ought to have been a shortage of women rather than of men. Capture and purchase of women of a neighboring clan could supply the polygynic households of one clan with additional women, but then the other clan where the women came from would be short of wives.³ Thus the almost equal numbers of males and females in man

² If the daughter represented a certain asset in the price of wife-purchase which the future husband had to pay to the father, then it would pay the latter to rear his daughter just as he brings up his colt, pig, or chick. Where is the logic of killing her? Infanticide and wife-purchase do not go together.

³ Judging from the prevailing marriage rites among many savages, many investigators conclude that at one period in the history of man marriage by capture has been the only means of procuring a wife. A little reflection will reveal this illogic reasoning. Where could the exogamic, strong, powerful clan get husbands for its daughters, except there be an understanding with the weaker clans, such as between the Israelites and Benjaminites (Judges XXI. 23).

forced the great majority of men in every clan and tribe since the time of the pairing family to live in monogamy.

With the advance of culture strict monogamy asserted itself and became the exclusive marriage relation of civilized humanity, thus returning to the starting point. The evolution of marriage thus moved in a circle. It started with the monogamy of the ape-man¹—among the anthropoids one male lives almost always with one female—it lasted all thru the pack stage till far into the stage of the mother group when promiscuity became general. This inordinate state lasted till the correlation between cohabitation and propagation became known to man, or till a change of instinct to reason took place. Then the more advanced tribes started to regulate the chaotic sex relations, while the backward tribes remained straggling behind at the different stages. Promiscuity changed into the consanguineous family, then to the punaluan family, the pairing family, the patriarchal family and, finally, back to monogamy.

But present monogamy differs greatly from the primitive monogamy. The latter was instinctive, as in the animal, hence amoral and anethical, while our present monogamy is based on conscious reflection and founded upon mutual sympathy and love that admits no third person between the loving husband and wife.

171 W. 126th St.

Comfortable Feet.—"Watch you step" is a fine slogan to be observed in buying shoes, says the United States Public Health Service. Get them large enough, built on sensible lines and most of your corns and bunions will disappear.

¹ The import of the author's reasoning is that the prehuman could not have acted lower than the wolf or the other monogamic animals whose young require paternal attention.

THE USUAL DERMAL SYMPTOMS OF SYPHILIS.

BY

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By far the greater objective syphilitic manifestations are the dermal, the disease presenting the various chronologic dermatoses of the primary, secondary, and tertiary stages. The first symptoms of the disease to make its appearance is the chancre, or initial lesion, appearing at the site of inoculation about twenty-one days after infection, on the average—the extremes being from ten to ninety days. The evolution of the primary lesion is accompanied by the period of secondary incubation, which lasts until the appearance of the first secondary symptoms, usually the macular, roseola syphilide, presenting from forty to ninety days after the appearance of the initial lesion. The two periods of incubation, the primary and secondary, during which the initial lesion develops, are called the primary stage of the disease, the duration of which is about nine weeks. The pathognomonic symptom appearing is the initial lesion, accompanied by adenitis of the nearest plexus of lymph nodes.

The secondary stage of the disease lasts from one to three years, and manifests, usually in the order given, the macular, papular, pustular and the pigmentary syphilides. The macular syphilide is the most constantly present; the other eruptions may or may not appear, depending upon factors of treatment, virulence of infection and bodily resistance. The macular syphilide is characterized by being a general eruption, as a rule, as are the earlier papular eruptions, and some of the pustular eruptions

when developing from papular lesions. Relapsing secondary eruptions are usually regional in distribution.

The tertiary stage of the disease follows an intervening period of from one to more years, during which time the disease may recover, and is of unlimited duration. Whether or not the disease progresses to this stage depends upon the aforementioned factors. The tertiary dermal syphilides constitute the squamous, the tubercular, the pustulocrustaceous, the rupial, the gummatous and the ulcerative manifestations. Tertiary dermal syphilides may appear as precocious syphilides during the first year of the disease, or ten to twenty or more years may elapse. Tertiary dermal syphilides are most always regional in distribution.

The primary lesion may be genital or extra-genital. The genital chancre is the usual manifestation and occurs in about 90% of the cases. It may be fugitive and disappear before the appearance of the secondary symptoms. The typical primary lesion presents characteristics which serve to differentiate it from other lesions. It is a progressive lesion, taking from one to four weeks to evolve; it is sharply defined; presents an infiltrated base, with a cartilaginous resistance to the touch; usually is surmounted by an erosion, which if ulcerate presents perpendicular edges, the base being clean and free from granulations, unless there be mixed infection; the secretion is thin and serous; the lesion is usually solitary, tho may be multiple; presents spirochetes upon examination of serous discharge by dark-field illumination; is accompanied by painless, non-suppurating adenopathy; is not autoinoculable; is of dull red color, gradually assuming a coppery hue; leaves no cicatrix, unless ulceration has occurred, tho induration and pigmen-

tion may persist for months.

The degree of induration which the primary lesion manifests depends upon the amount of infiltration taken place. When the induration is superficial, resembling a sheet of tissue paper, it is called laminated; when somewhat thicker, it is termed parchment-like; when the induration takes place in both superficial and deep dermal capillaries, it is called cartilaginous or nodular. Parchment-like chancres are found chiefly upon the integument, while nodular ones are prone to appear upon the inner surface of the prepuce, on the sulcus coronarius and near the frenum.

Other forms of chancre are: the dry papule, a form usually found upon the glans penis or prepuce, when not in a state of coaptation, also upon the shaft of the penis, scrotum, thighs and elsewhere on the body; then there is a follicular or umbilicated form, appearing upon the glans penis or coronary sulcus, having elevated edges and a cup-shaped central depression; the purple necrotic nodule is a rare form of lesion, appearing upon the glans penis or coronary sulcus, as a rule, and begins as a small, dark red spot, becomes roundly convex and is prone to undergo necrotic degeneration; another form is the ecthymous chancre, which becomes covered with a pus crust and develops from a dry papule, a chancrous erosion, or *ulcus elevatum*, and is induced by the surface of the chancre undergoing necrosis, it usually being found upon the cutaneous surface of the penis and juxtagenital parts; the annular chancre, presenting a thickened margin, with a lesser degree of induration in the center, it being manifest as a rule upon the inner surface of the prepuce, sometimes the glans, and the integument of the penis; infected balanitis is a development of an initial lesion in a

diffuse, disk-like form, upon the inner layer of the prepuce and usually starts as a chancreous erosion, spreading peripherally, and accompanied by increasing infiltration, the color is dull red and the prepuce is retracted with difficulty; the mixed chancre is a double infection, having the characteristics of chancre infiltration and chancroid ulceration; the *ulcus elevatum* is a chancreous erosion manifesting much peripheral hyperplastic infiltration; the scaling papule is a lesion which increases peripherally, but does not become much elevated, and is a flat, brownish-red, scaly lesion; the so-called silvery spot, a very rare form, occurs on the glans, or lips of the meatus, and appears as tho the tissue had been touched with a drop of carbolic acid; and, finally, the herpetic chancre, resembling herpes progenitalis, and diagnosed by differentiation.

The macular syphilide, also known as the erythematous roseola eruption, is usually the first dermal announcement that the body tissues have been invaded by the spirochetes of syphilis and at this time there is usually a train of concomitant symptoms due to constitutional toxemia; acute congestion of the respiratory mucosa, particularly of the fauces and pharynx, malaise, rheumatic manifestations, alopecia, mucous patches in the mouth, on penis and vulva, about anus, headache of varying intensity, and often a temperature, usually of remittent type, presents and may persist for some time, often causing the symptoms to be mistaken for some other infection when the dermal symptoms have been overlooked. As a rule, however, if the sufferer falls into the hands of an averaged-trained physician, the diagnosis is correctly established.

The macular syphilide is a pale rose-red eruption, appearing most entirely upon the

covered surfaces of the body and most evident upon the trunk and inner surfaces of the limbs. Unless the eruption appears upon the face and hands, which seldom does, it creates but little discomfort. Regional macular eruptions may appear upon certain parts of the body, but it is not the rule. The macules are slightly, if at all, raised above the level of the skin surface, and the size may vary from that of a dime to a half an inch in diameter; upon exposure to cold they become more pronounced, becoming purplish-red, then assuming a yellowish-red tint; they either disappear without leaving a trace, or assume a degree of infiltration, developing into a maculopapular eruption. On disappearing they may leave a degree of pigmentary staining, which gradually disappears. The macules may clear up in the center, presenting annular or ring-shaped lesions. The duration of this eruption is from one to three months and it may be so slight and transitory as to escape the notice of the individual. Relapses may occur and are usually limited to regions.

Following the macular syphilide comes the papular type of eruption; it may appear while the macular eruption is in full florescence, while it is fading, or some weeks after it has disappeared. The lenticular form of papular syphilide usually presents, the miliary papular syphilide less frequently. The papular forms of syphilides may run their course in one to three months, or persist for a longer time. In undergoing resolution the papules leave depressed pigmented spots, which later disappear. There are two varieties of the lenticular papular syphilide, the large and the small. The small papules most usually occur as a general eruption, while the large, flat papules most always present as a mixed eruption with the small, flat papular syphilide, or

with the pustular. In the later eruptions the small, flat papules tend to group and form circular arrangements and are less numerous than in the earlier eruptions.

The lenticular papular syphilide usually appears first upon the upper part of the chest, about the shoulders and back of neck, and often about this time the papules appear upon the face, mostly about the nose, chin and mouth; the papules then appear upon the lower part of the trunk, being most profuse about the hypogastric region. The supra- and infraclavicular regions are usually free from eruptions, and over the sternum is usually spared. The papules are thicker upon the anterior surface of the shoulders, and are more numerous upon the inner surface of the arms, particularly about the joints, than the outer surface. The palms of the hands often manifest numerous papules, while the dorsal surface is usually free from eruption. The papules are usually prominent about the gluteal region; they are more numerous upon the inner surface of the thighs than the outer, and sparsely appear below the knees, if at all. They tend to appear at the junction of skin and mucous membrane at the angles of the mouth, and on the forehead, along the line where the hat-band presses, they form the so-termed "corona Veneris."

In the early stages the eruption appears as small red spots, rapidly assuming the form of papules. In the early stage of papular evolution the color tends to pinkish-red, later assuming a dull red or coppery hue; the change of color first appearing in the papules on the face and legs. In individuals possessing delicate skin, anemia, or feeble circulation, the color of the papules is apt to assume a very faint light-red color, gradually fading to a yellowish-brown.

The large, flat papular syphilide presents

papules having a diameter of one-quarter to sometimes one-half an inch and are round or oval in shape. They begin as small spots and rapidly increase in area; their surfaces are usually flat, tho may slope toward their margins, which are usually well defined; there may be a scaling of the summit of the papule and frequently an epidermal fringe surrounds the base. In rare instances the surface of the papule becomes covered with a dirty membranous crust, indicating a severe form of the disease in impoverished individuals. This eruption may sparsely appear among the erythematous roseola macules, or among the small flat papules. It sometimes appears upon the palms of the hands and soles of the feet, forming scaly, psoriasiform lesions, tending to coalesce when become irritated; often are difficult to diagnose and resist treatment, are free from itching and leave a scaling pigmented surface on disappearing.

The moist papular syphilide is a modified papular lesion, caused by moisture and heat changing the superficial mucous layers. It is commonly found where folds of the skin rub together, as between the scrotum and thigh, penile prepuce, on vulva, and about anus. They show a tendency to form large, flat condylomata, circular in shape, and may become depressed in the center. When newly formed they have a bright-red, raw appearance and later become covered with a layer of degenerated epithelium. In the mouth they appear as tho the mucous membrane was touched with a stick of silver nitrate; they are usually not ulcerated and if appearing at the angles of the mouth are fissured. On the mucous membrane of the buccal cavity there often is a thin zone of hyperemia about each individual patch. They are a very contagious form of syph-

ilide and responsible for a multitude of infections, frequently innocently acquired.

The miliary papular syphilide is less often met with than the lenticular form. It may come as a general eruption early in the secondary stage of the disease and consist of an eruption of pin-head to sage-grain size conical papules, and when appearing as the first eruption of the secondary stage are usually distributed over the body and limbs, often closely grouped together, especially about the nose and chin, on the forehead, back of neck and outer surfaces of the extremities, also upon the scapular and gluteal regions. The papules may be arranged in symmetrical circles or segments of circles; they may, however, be manifest without definite arrangement. In a generalized eruption the papules may appear upon the dorsal surfaces of the hands, also when occurring upon the scrotum or penis may be transformed into condylomata. After repeated relapses, the papules become fewer and tend to regional distribution.

A characteristic of the miliary papular syphilide is that the papules tend to form about the mouths of the hair follicles and often have depressed centers. Sometimes the lesions change into vesicopustules and at other times the papules tend to fuse into patches and become scaly; their color is a dull red, as a rule, sometimes having a purplish hue. This eruption tends to run a chronic course, unless influenced by treatment, and leave pigmented spots that fade to white only after some weeks; the longer the papules exist the greater the tendency of the pigmented spots to become atrophic.

The earlier papular syphilides usually run their course in about six to eight months; they may appear alone, as the first eruption, or as mixed papular, or as maculopapular eruptions; and in certain cases may

appear as papulopustular, or papulotubercular lesions, in individuals showing feeble resistance and where the disease manifests a precocious tendency. It is the appearance of these characteristic papular lesions, together with associated symptoms when present, that establishes the diagnosis, if the individual first comes for treatment at this stage of the disease. Round or oval, raw ham or brownish-red colored papules, discrete or grouped, are pathognomonic of syphilis.

The pigmentary syphilide may occur early or late in the secondary period of the disease, there being three varieties of the condition: one form occurs in spots or patches of various sizes; another presents a diffuse pigmentation of retiform nature, characterized by the formation of leucodermatous areas which gradually increase in size and are surrounded by a network of displaced pigment, the primary dermal change being a light or deep brown pigmentation, followed by the appearance of small, white achromatic spots, which gradually increase in size and become surrounded by a hyperpigmented network of displaced pigment; the third form is the least common and is characterized by the natural color of the skin becoming whiter than in the normal condition and surrounded by a thin, indistinct or blended brownish border.

The pigmentary syphilide is usually found upon the sides and back of the neck. The retiform variety may extend down the anterior surface of the arms, also over the trunk; the form which occurs as spots or patches, light or deep brown, may show uneven distribution of the pigment, being darker at the margins. The face, forehead, trunk, arms and legs are less frequently involved. Usually appears during the latter part of the first year, but may appear

as early as the second month; or it may not appear until the second or third year of the disease. It occurs more often in women than men, particularly blonds, and usually before the age of thirty-five.

Alopecia syphilitica occurs early in the disease and is an irregular thinning out of the hair in the form of patches, that tend to present a moth-eaten appearance. In rare cases the loss of hair may become general. All hairy parts of the body are subject to the shedding. The moth-eaten, patchy, irregular appearance of the scalp and broken continuity of the eye-brow are pathognomonic of syphilitic infection. Later in the disease, bald spots follow destructive lesions upon the hairy parts of the body.

The pustular syphilides may appear early or late in the disease. When occurring in the secondary stage of the disease the papulopustular form is usually encountered. The size of the pustules may vary from that of a pin-head to a third of an inch in diameter; they may be acuminate, globular, or flat; some of the lesions may have a papular base with a pustular summit; there is more or less infiltration about each lesion; they may cover the body as a general eruption, or appear in regions. The earlier papulopustular eruptions cause no destruction of the skin, while the late ones involve all the layers of the derma and leave cicatrices, which are first pigmented and later become a glistening white. The pustular syphilide shows a marked tendency to appear upon surfaces rich in sebaceous follicles. The earlier the eruption the more numerous the lesions. Relapses are prone to appear. There are the lenticular, miliary and the impetigo-form types.

The lenticular-pustular syphilide (varioli-form) is less frequent in occurrence than the miliary type of lesion. It consists of a

disseminated eruption of round, pea-sized pustules. It may develop from a papulopustule, or be a pustule from the start, and is apt to be accompanied by fever. The eruption may be general or regional. The lesions are discrete and do not form groups; they are usually scant upon the outer surface of the extremities and more numerous upon the trunk, particularly about the inguinal region. The eruption generally begins about the face and spreads slowly over the entire body.

The miliary-pustular syphilide (acne-form) consists of conical or rounded pustular lesions. They may occur as a frank pustular eruption, or be mixed with erythematous or papular lesions. It is apt to be more marked and lasting upon the extremities than upon the trunk. The pustules develop about the hair follicles and the lesions are tipped with small crusts. The eruption may persist for two or more months, unless modified by treatment, and leaves pigmentation and pitting that may persist for some time. When the invasion is acute, the eruption is usually accompanied by febrile symptoms and the small red spots rapidly become papular, then pustular. The eruption generally begins about the face, scalp and shoulders, then invades the trunk and extremities.

The impetigo-form syphilide usually begins about the latter part of the first year of the disease. They show a tendency to involve a much larger surface than the preceding pustular forms of lesions and involve only the superficial layers of the skin. The lesions rapidly dry into crusts. In neglected cases the impetiginous lesions may become indolent and serpiginous in character, invading the superficial dermal layers. These lesions are usually met with upon the face, arms and thighs. The course

of the eruption is chronic; the pustules may appear as a single eruption, or succeeding crops. The individual lesions are small and flat and by confluence form impetiginous crusts.

The tertiary forms of the disease are characterized by their tendency to chronicity and localization, the discrete or regional character of the many forms, the involving of both epidermis and derma, more marked cellular infiltration, and increased tendency to ulceration, followed by connective-tissue hyperplasia and cicatrices. Modifications of the late secondary eruptions may occur in the tertiary stage of the disease, but to a certain group of syphilides, that may occur any time after the first year, the term tertiary is given and when they appear during the first year of the disease are called precocious tertiary lesions.

The tubercular syphilide may occur in the later part of the second year, or may not appear at all, due to effective treatment, low virulence of spirochetes, resistance of patient, or other factors. Tubercular lesions occur in clusters, involving the deeper layers of the corium; they are at first light red in color, later assuming a raw ham or dull red hue; they vary from a split pea to a dime in size, and are firm, resilient, flesh-like in structure. They are round, smooth and somewhat glossy, or flat, rugous and withered. They are frequently scaly and often arranged in circles or segments of circles, or may form rings from the beginning, from absorption of the central members of the group. A frequent location is on the back of the neck, or on the face. The later they occur in the course of the disease the more they tend to form groups. Unless influenced by treatment, may continue to form for years, new lesions replacing old.

Tubercular syphilides disappear either by absorption or by softening and breaking down, forming sharply defined ulcerations with perpendicular edges and a yellowish, sloughing base. When a number of lesions in a group break down and coalesce, a large ulcer with scalloped edges is formed, often covered with a yellowish-green crust of varying thickness. They leave depressed, smooth cicatrices, at first pigmented, but later turning white. These lesions give rise to no subjective discomfort, as a rule, and are rarely known to occur as a general eruption.

Another form of tertiary lesion is the squamous syphilide, tho it may occur during the secondary stage of the disease thru confluence of a group of papular lesions and later metamorphosing into a scaling infiltrated patch. There are two forms recognized: the discoid, situated upon the palms of the hands and soles of the feet, and neighboring parts; and the circinate, which not only occurs upon the palms and soles, but elsewhere on the body, particularly about the mouth and chin. The discoid form usually presents a round patch of varying size, tends to become serpiginous and irregular and advances over a considerable area, often healing at one border while advancing at another, while the infiltrated, scaling patch is usually surrounded by a thin reddish margin. The lesions often clear up in the center, leaving a scaling circinate lesion; the rings may in turn become broken, leaving a curved line, or two or more rings may coalesce to form gyrate figures. The circinate lesion is annular from the beginning and is often accompanied by a *seborrhea sicca*.

The pustulocrustaceous syphilide manifests pustular lesions of varying size, accompanied by resulting ulcerations, covered

by prominent and characteristic crusts. It is a late form of lesion and usually occurs in poorly nourished subjects. This type of eruption is usually divided into three forms, each having its characteristic appearance to identify it, and are known as the ecthymatous, the rupial and the pemphigoid.

The ecthymatous form begins as an eruption of one or more round, flat pustules of a diameter of a quarter to a half an inch or larger. They have a well-marked inflammatory areola and a swollen, indurated base. The pus soon becomes dry, forming a blackish-green crust, whose center is somewhat depressed. At first the crust covers the pustule, but on contracting leaves a raw rim about it. When the crust is removed there is left a typical punched-out ulcer, covered with sanious pus which rapidly dries into a new crust. Under proper treatment the crust falls, leaving an ulcer partly or entirely healed. The cicatrix is smooth and pigmented and gradually becomes white. This eruption appears most often upon the arms and legs. If the course of the disease is not checked the ulcerations increase and become ulcerating syphilides.

The rupial form of pustulocrustaceous lesion differs from the ecthymatous in being more superficial from the beginning and in being covered with conical, laminated crusts, resembling in structure the shell of an oyster. It begins as a superficial pustule, or as a small, flat bulla, without induration. A greenish crust first develops, under which ulceration persists, the margin of the ulcer extending a little beyond the original crust; a new crust forms upon the first and the process repeated until a well-defined, laminated crust is formed. When the ulceration extends more rapidly in one direction than another the crusts are higher in one

portion than another. They may become half an inch or more in height and one or two inches in diameter. When the crusts are removed the ulcerations are less deep than in the ecthymatous form. On healing they leave a pigmented cicatrix which eventually becomes white.

The pemphigoid, or bullous form, is a rare lesion in the acquired form of syphilis, but common in the hereditary type of the disease. It consists of an eruption of superficial, flattened, purulent bullae from one to five centimeters in diameter, which tend to dry into thick crusts. If the patient is in fair health the ulceration may not be very deep, but if cachectic, may extend quite deeply. It leaves on healing either a pigmented atrophic spot or a pronounced cicatrix. The diagnosis from pemphigus simplex must be made when the lesion exists by itself.

The ulcerating syphilide is a sequential lesion of a pustulocrustaceous, tubercular, or gummatous syphilide, and presents the superficial, the deep and the serpiginous ulcerations. The superficial ulcers are circular in shape, with sharply cut edges and a yellowish-green purulent base; often follows a pustular or pustulocrustaceous lesion and may appear early in the disease, particularly in impoverished individuals; is usually the size of a quarter or half dollar and may coalesce with other ulcers to form a large, irregular, scalloped-edged ulcer. The face and extremities are favorite sites for its appearance.

A serpiginous ulcer is so termed because it tends to creep over the surface, healing and leaving a cicatrix as it advances. It may develop from a single, circular ulcer, which heals on one side, leaving an irregular ulcerating area of crescentic outline, beyond which is a narrow zone of infiltration that

advances before the ulcer. A group of pustules or tubercles may break down and form a number of ulcers, which later coalesce to form an irregular serpiginous ulcer, tending to heal at site of first appearance and advancing on opposite side. This form of ulceration is usually found upon the back of the trunk and upon the extremities, does not cause the individual much discomfort and is chronic in its course.

The deep ulcerations of syphilis are commonly due to breaking down of gummatous deposits. The smaller ulcers may have a crater-like appearance. It often happens that an ulcer arising from an evacuated gumma leaves an opening much smaller than the cavity beneath, resulting either in the sloughing of the overlying tissues, or closing down upon the base of the ulcerating cavity and healing over. Many of the ulcerating syphilides will present exuberant granulations. A chronic ulcer located above the middle third of the leg is apt to prove syphilitic.

The gummatous syphilide is one of the most definite of tertiary syphilides in its characteristics. Gummata start in the subcutaneous tissues and involve the skin secondarily. A gumma begins as a small nodule and may only be discovered by sense of touch as it develops beneath the skin in deeper subcutaneous tissues. Later, as the tumor develops, the spin becomes elevated and the mass may be palpated readily and usually found to be freely movable, resilient, firm and does not cause pain. As it increases in size the tumor becomes anchored to the skin, which assumes a dull red color. A degree of fluctuation may cause the mass to be mistaken for an abscess. When left to itself it either absorbs or breaks down and ulcerates, leaving a deep and circular ulcer. The favorite sites for the lesion to

appear are the scalp and the forehead, tho it may appear anywhere upon the body. Gummata varies in size and may become as large as a hen's egg.

When gummatous lesions occur in groups there is usually an infiltration between the individual lesions, the patch assuming the raw ham color of the late syphilides. Grouped gummata do not reach the size of individual lesions and when they break down and coalesce they form large, irregular ulcerations. They are usually met with upon the scalp, about the nose and chin, the outer surface of the extremities, particularly near the joints, and lower part of the leg near the ankle. Gummatous infiltration of the skin is usually followed by serpiginous ulceration. Tubercular syphilides at times are hard to distinguish from gummata, particularly after the gummata have involved the skin. The gumma represents the late stage of dermal syphilitic manifestation.

Syphilis is a disease with multiform symptoms. There are the usual well-defined chronologic dermatoses, then again there are the atypical types of dermatoses, simulating or accompanying other diseases, such as psoriasis, eczema, seborrhea, lichen, acne, and so on, which often require keen differentiation, plus the Wassermann test, to make a diagnosis. Syphilitic eruptions have been mistaken for the eruptions of other diseases, to the misfortune of the sufferer, and often the chagrin of the physician and it is a safe rule to adopt, that in all obscure eruptions a Wassermann test will furnish the means to determine the true nature of the ailment in nearly all cases. Another measure of safety is to take a complete history of each case for it may show, in many instances, previous venereal infection.

The hereditary types of syphilitic dermatoses have been omitted from this paper, also some of the rarer or unusual forms of acquired syphilitic dermal symptoms, the purpose being to review the principal symptoms usually presenting, and if one exercises the average amount of acuity in diagnosing such presenting symptoms, the mistake will not occur in diagnosing syphilitic roseola, measles, discrete papular syphilides, chickenpox, subcutaneous gummata as wens, or a generalized papulopustular eruption as smallpox.

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CIRCUMCISION IN THE FEMALE.

BY

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All attempts to procure an accurate history of circumcision in the female as practiced in the Sudan utterly failed. The following anecdote, tho I very much doubt its authenticity, is, however, very popular among the various tribes there. It dates back to one of the Pharaohs of Egypt, who is supposed to have had a miniature organ of generation.

The Pharaoh is said to have been very sensational, but on account of the above mentioned deformity, he never enjoyed the progenitic function. This matter caused him much worry and was the subject of long meditation. It ultimately ended in a proclamation to the effect of having all females circumcised in such a manner as to extremely narrow the vaginal orifice. The

procedure fortunately succeeded in overcoming the deficiency in the development of the Pharaoh's organ of generation, who was thus enabled to fulfil a vital function, the pleasure of which he was heretofore deprived.

The operation seemed to gain many favorites, as it soon became very popular and, perhaps, thru the influence of slaves, was introduced into the Sudan where it has stood the test of time extending over several thousand years.

The operation as practiced now, varies according to the different tribes, from the excision of the clitoris and labia majora, in some, to the removal of all the external organs of generation in others.

It is usually performed before the girl attains the age of four years.

The operator is, as a rule, the midwife assisted by three other women.

The instruments used are a razor, preferably of the native make, 3-4 thorns, four to five centimeters long and a cotton thread.

No aseptic or antiseptic precautions are ever taken or even thought of.

Of all I could make out the operation has the same technic, varying only in degree.

One of the old women holds the girl to be circumcised firmly in her lap, the other two, standing one on either side, take a strong grip of the thighs. The operator, standing in front, is now ready to proceed.

Technic A.—In the Sudanese proper and emigrants, who, thru time, have taken the customs and habits of the inhabitants proper, the operator proceeds as follows:

Holding the razor with her right hand she first snipps off the clitoris and then, passing to the labiae, she shaves off primarily the right and then the left side, leaving the vaginal orifice of nearly normal size. The wound is now ready to be sutured; this is

performed by passing two or three thorns thru the cut edges and tying their extremities with cotton threads. The lower extremities are then adducted firmly by tying around the ankles, above the knees, and around the thighs. The girl is now put to bed and is not allowed to move for at least eight days, tho she hardly ever leaves bed before forty days.

B.—In the "Hadendawa" tribe the operation has the same procedure, going a little bit further and leaving a very much smaller opening, but interfering in no way in the functions of urination and menstruation.

C.—In the "Beni Amir" tribe the operator goes still further when suturing, for she leaves nothing but a pin-hole opening.

This, they say, allows the normal flow of the menses when the girl reaches puberty, but that she is compelled, when urinating, to push back the skin overlapping the urinary meatus with a thorn or a pin, to allow the free exit of urine. They are stated to urinate only once every twenty-four hours on account of this.

D.—The "Zbaidi" tribe, originally of the peninsula of Arabia and living now in the Sudan for over seventy years, have not taken this habit, the ritual (Mohammedan) snipping off of the clitoris being the only thing practiced. It will surely be of some interest to mention here that male members of this tribe often get married to Sudanese women, but no Sudanese male ever gets married to Zbaidic women, these being uncircumcised.

E.—The "Shilok" and "Dinka" tribes, inhabiting the interior of the Sudan, practice no circumcision whatever.

The circumcision in classes *A* and *B* hardly, if ever, interferes in performing the marital function, tho it is much more difficult in the latter.

In class *C* it is impossible to perform the said function before the bride undergoes an operation of slitting open the pin-hole orifice of the vagina. This is naturally done by the midwife, but on the demand of the bride's parents only, who do not ask it before being bribed by the bridegroom, according to his means, with from two to ten cows.

In all three classes, a pregnant woman when in term will have to undergo the operation of opening the vagina anteriorly to allow the delivery of the fetus.

The lips of the wound are coapted soon after delivery as above mentioned and the patient has now to pass her forty days in bed.

Lastly, it is very usual for a woman who notices that her vaginal orifice has gone wide, to undergo the operation of paring the lips and suturing the opening to the size required.

MENIERES DISEASE OR AURAL VERTIGO.

BY

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The semicircular canals like many other organs and structures which constitute portions of the nervous system, have been variously named. The best designations are those suggested by Retzins, namely, anterior, posterior and external. The anterior is also known as the superior, the superior vertical, and the sagittal; the posterior as the frontal and the posterior vertical; the external as the inferior or horizontal. Two at least of the great branches of the vestibular nerve originate in the ampullae of the semicircular canals, the third in the utricle. The ramus medius of Schwalbe,

usually regarded as a branch of the cochlear nerve, goes to the ampulla of the posterior semicircular canals and to the sacule. The functions of the semicircular canals have not been fully determined. At one time they were regarded as of essential importance to the function of hearing; at another, as playing a minor part in this function; while the view now held by many is that they have no direct connection with

tinuous inflow of nervous impulses from the eye and its muscles, from the nerves of the muscles, joints and viscera, and from the ear. Anything which suddenly disorders this even inflow may cause a disturbance of consciousness and sensations of vertigo. The aural impulses come from the semicircular canals and ampullae; they are the most important. These impulses are not felt in consciousness, normally, but

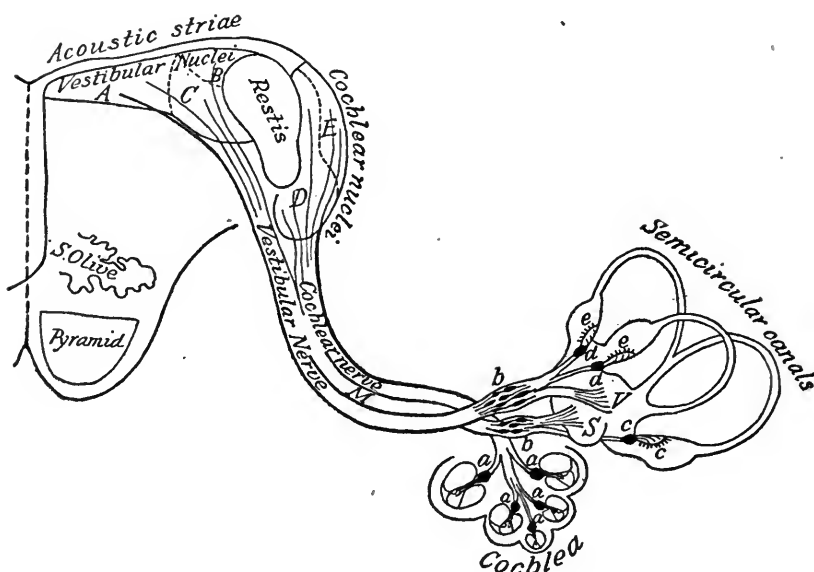


FIG. 1. Diagram of the cochlear and vestibular nerves, showing their origin, peripheral expansions, trunks, and terminal nuclei in the bulb; *a, a, a, a, a*, the spiral ganglion as shown in a section of the cochlea; *b, b*, Scarpa's ganglion; *c*, Corti's ganglion in the ampullae of the inferior or posterior semicircular canals; *d, d*, unnamed ganglia in the ampullae of the superior vertical or anterior and in the horizontal or transverse semicircular canal; *e, e, e*, cristae acusticae; *V*, utricle; *S*, sacculle; *M*, ramus medius of Schwalbe; *A*, dorsomesal nucleus; *B*, Bechterew's nucleus; *C*, Dieter's nucleus; *D*, ventrolateral nucleus; *E*, acoustic tubercle.

audition, but are essentially related to equilibrium. An analysis of all the evidence makes it most probable that these canals and the nerves originating in their ampullae have for their special function the regulation of spatial or equilibratory impressions.

The consciousness of the proper equilibrium of the body and of its relations to the external world depends upon the con-

go to certain lower centers, chiefly in the vermis of the cerebellum. From this point they influence the acts concerned in holding the body in equilibrium. A toxic condition of the blood, an irritative focal lesion, or some other initial cause acting upon the vasomotor nerves of the labyrinth leads to paroxysmal disturbances of the circulation and to variations of labyrinthine pres-

sure, during which the patient suffers from the symptoms which make up the picture of Meniere's disease.

The special symptoms of disease of the vestibular nerve and of its central connections are usually more or less severe vertigo

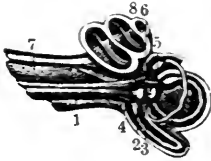


FIG. 2. Internal Ear Laid Open. 1, vestibular branch of the auditory nerve; 2, branch to the saccule; 3, branch to the utricle; 4, 5, 6, branches to the ampullae of the membranous semicircular canals; 7, cochlear branch of the auditory nerve; 8, cochlea.

and a sensation of unbalanced movements, marked when the patient is in a standing or a sitting position. Occasionally the paroxysms of dizziness come on when the patient is in the recumbent position. The patient without any auditory symptoms may

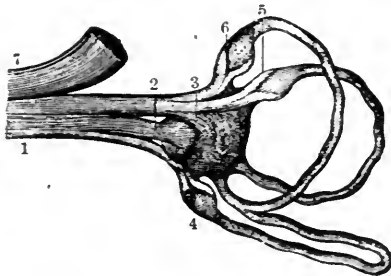


FIG. 3. Nerves of the Vestibule and Semicircular Canals, magnified three diameters. 1, vestibular branch of the auditory nerve; 2, branch to the saccule; 3, branch to the utricle; 4, 5, 6, branches to the ampullae of the semicircular canals; 7, cochlear nerve.

show a tendency to turn or fall in some particular direction, or objects may seem to be falling or moving or a tendency to deviate to one side in standing or walking may be shown. Often the chief complaint is of dizziness, giddiness or vertigo; some-

times, but less frequently, it is of pitching, reeling, swaying or staggering. One or several of these terms may be chosen by the patient to describe what to him seems to be his most important symptom. The terms vertigo, giddiness and dizziness are commonly used interchangeably, or without any special distinction by doctors and patients. Vertigo comes from *vertere*, "to turn," and the word is best used to define a sense of disturbed equilibrium which may or may not be associated with actual movement of the patient or of objects external to him.

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THE DEFECTIVE DELINQUENT.

BY

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Paradoxical, as it may sound, the more feeble-minded an individual the less dangerous is he. The lowest grade, the idiot, leading a purely vegetative existence, while a burden upon his family and the community is in no way a menace. There have been many loose statements made by over-zealous reformers regarding the "menace of the feeble-minded." These statements would be entirely true were they discriminatory in character instead of generalizations directed *en masse*. The dangers to which the feeble-minded subject society increase with each ascending intellectual gradation until they become greatest in the borderline case and in that class of cases in which the preponderance of defect exists in the higher intellectual faculties and the emotions, known as the feebly inhibited.

These individuals often are not recognized as being feeble-minded at all. Their glibness, their frequent attractiveness of form, feature and manner, their innate faculty of making the best of a difficult situation, leads the uninitiated to credit them with a degree of intelligence which they do not possess. This is the class which furnishes the largest proportion of chronic and dangerous defective delinquents, both juvenile and adult, and is the class with which it is most difficult to deal. Many, technically, cannot be classed as feeble-minded, tho they are just as irresponsible and more dangerous than the patently imbecile.

Heretical as it may appear, education enhances the possibilities for harm in this type of individual, rendering him (or her) more cunning, more clever at subterfuge, and with possibilities for harm more difficult of recognition. These individuals may acquire knowledge, of a sort, and learning, of a sort, but neither of these possessions necessarily make for intelligence or for education in its true sense.

Much of the social unrest of the present day may safely be attributed to agitators of this class, ingratiatingly plausible, who depend upon those of lesser mental equipment to "pull their chestnuts out of the fire." Nearly always it is the individual of inferior mentality who becomes the cat-paw for the delinquencies of the poorly-balanced trouble-maker. This tendency is seen in Juvenile Court where the patently feeble-minded and the border-line case often come under jurisdiction because of the pernicious activities of the feebly-inhibited. Unfortunately, present-day tendencies and present-day social conditions tend to aggravate the condition of the feebly-inhibited. The fundamental cause is nervous insta-

bility, which in turn is the result of physical inferiority, either hereditary or acquired, or both. Lack of proper hygiene, of opportunities for normal healthful play, a strained and poorly constituted home atmosphere with lack of consistent intelligent discipline, the sensational moving picture show, lack of sleep and rest, poorly-balanced diet—all have their influence.

It has been stated that fully two-thirds of the inhabitants of this country are constitutionally inferior and I believe it is safe to state that the proportion of mentally inferior is as great. There is a tendency to credit the great mass of the social body with a higher degree of intelligence and reasoning ability than is really possessed by the generality of individuals. The psychology testing given such wide use in the army and now being utilized in industries, schools and universities is serving to make this apparent and to show the futility of attempting to segregate all the mentally inferior. The simple fact that an individual fails to measure up to an arbitrary standard does not necessarily imply that such an individual is a useless bit of flotsam. He may have his place in the social body and that place a comparatively important one, but such a place should not be one that requires reasoning ability that the individual does not possess.

It is my firm conviction that it is a mistake to attempt to administer a higher degree of education to individuals (and these comprise a rather large proportion) who are not inherently equipped to profit by it. We have some clearly defined laws dealing with the ages at which children may leave school, yet many children would be better were no attempt made to force them beyond the fourth to the sixth grade and if they were allowed at the age of fourteen,

not having progressed further than these grades, to accept light employment and hygienic surroundings under proper supervision. Work is a greater factor in mental development and in character formation than schooling which does not "take." As Confucius says, "Undigested knowledge leads to confusion."

At the present date all our cities are poorly equipped for the care of the defective delinquent. The excellent institutions for the feeble-minded are overcrowded with those whose handicap is mental defect rather than delinquency, and because of familial interference and on account of the hyperactivity of the individuals themselves it is difficult to keep such cases in this class of institution. Neither is it just to the non-delinquent to subject them to the association of such pernicious examples, nor to the high-grade defective delinquent to be forced to constant contact with low-grade cases. The reform schools offer a haven for the confirmed delinquent. The most important function of the vocational schools is to care for the accidental delinquent and for the border-line case who has a chance for reclamation. Other institutions fulfil similar functions. What the large cities particularly lack and what they particularly need is a separate institution, or rather two institutions, one for boys and one for girls, to which defective delinquents may be committed, and where they may be closely studied from all standpoints to determine the nature of their defects, whether they may be corrected and the best means by which such correction may be made, and if not correctable what final disposal should be made. Such institutions would be, to all intents and purposes, juvenile psychopathic hospitals, offering all facilities for the utilization of present scientific knowledge and

with facilities for scholastic and vocational training and for the highest type of hygienic care.

It would not be many years before the beneficial effects of this type of institution would be seen in a diminution in insanity, in crime, in dependency and in social confusion generally.

TOBACCO POISONING WITHOUT USING TOBACCO.

BY

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Paradoxical as it may sound, it is a fact, nevertheless that tobacco poisoning from the father's, or the boys' smoking in the home, the "gentlemen's" smoking in the office, etc., often occurs. As long ago as 1900 I related cases where mother and children were affected from the father's smoking in the kitchen, followed by speedy recovery, when rid of the offensive agent, the tobacco poisons in their breathing air; also a case where the sister (a clerk) was for years a wreck, very badly suffering from, *first*, the father's smoking and after his death the brother's in the home; two rooms for them all. The father smoked a pipe and during this time she was not so very much affected as after his death, when the brother began to smoke at home, "cigarette after cigarette." Be it enough to say, that for years she was sent from hospitals to home and from home to hospitals, always improving after some weeks stay at a hospital, soon to be sick as ever before, when home again. Different diagnosis at different hospitals as "neurasthenia," "hysteria," "anemia," "organic heart failure," "neuritis," "severe chlorosis," etc. Really, she was suffering from chronic tobacco poisoning with all its bad effects on the heart, the lungs, the circulation, the nerves, the stomach, the brain, etc.

When the brother heard of the cause for the sister's ailment, he was gentleman enough to give up smoking at home, and gradually she recovered, but never to

restitutio ad integrum, as for life she remained arteriosclerotic.

Since, then, so many cases of tobacco poisoning without the personal use of tobacco have come under my attention and care, it seems for me almost a duty to mention this "wholesale" tobacco poisoning of innocent victims, mostly children and women.

Everywhere tobacco smoke is in the air breathed, tobacco poisoning occurs—the smoker may believe it or not—and the sufferer may be anyone inhaling the many poisons in the dry destillate of the plant, of which the nicotine is one, but far from the most noxious one.

This kind of slow, chronic tobacco poisoning, very often from earliest childhood explains why some learn to use tobacco so easily, when others never can learn it. The first ones have gradually been immune, exposed as they have been almost daily to the fumes; the other ones have not been living in such a poisoned atmosphere. It explains many obscure ailments in children, "malnutrition," without lack of food, etc., where it easily should have been recognized as tobacco poisoning from the air in the home. How quickly children and wives "pick up" in the summer, when they, rid of the father's, the boys' or somebody else's tobacco smoke, go to the country. It is attributed to the fresh country air. May be! But add: "free from tobacco smoke."

The younger the "tobacco inhaler" is, the more harmful is the effect of the drug. Surely many an irritable heart or early hardening of the arteries, many a "pale face" or setback of children, many a case of "laziness" or "always being tired," etc., may, in all truth, be laid to tobacco smoke poisoning.

It may suffice to relate two of my later cases:

Case 1.—Woman, clerk, 28. Up to the last two years teacher in a country school and "had never been sick." To earn more money she took a position in a Boston office, and from that time "never felt really well, but opposite, been more and more sick." Soon she had to consult doctors; got "tonics," but to no avail. Two months ago she was pronounced to have consumption and organic heart failure. Her yellow complexion led another doctor to diagnose "liver trouble." She was dizzy and had

heart palpitation, which another attributed to coffee. Also she had headache, for which an eye specialist gave glasses (without relief).

Enough to say: I found tobacco poisoning: typical tobacco heart, however, beating regularly, tobacco catarrh and kiniosis in the lungs, etc., also swellings (myositis) around the nerve trunks on the neck.

"Do you smoke?" "Oh, no! How can you ask so?" "Because you are tobacco poisoned. Do they smoke where you work?" "Yes! Everyone. But all the gentlemen (?) ask me always: 'do you mind my lighting a cigarette,' to which I always, of course, answered, 'no.'" After some weeks of good, healthy country life she went back as well as she can be. But for the rest of her life remained somewhat arteriosclerotic.

Case 2.—Boy, 12. For years suffering from an asthma growing progressively worse. The boy was pale, frail, stunted; had pronounced tobacco heart, too, hard arteries, etc. "Do you smoke in the home?" his father was asked. "Yes, and the rest of the boys, too." There it was! *No more smoking in the home!* And from that time *no more asthma!*



Ovarian Extract in Profuse Menstruation.—Tyler concludes his paper (*Therapeutic Gazette*, Jan. 15, 1920) as follows:

1. Judging from the fact that administration of lutein (in cases that have previously menstruated without clots) produced clotting, and from the fact that clots were reduced or disappeared in the preceding cases, I believe that the interstitial glandular portion of the ovary has an influence on the menstrual flow thru its hormone—that is, it prevents formation of clots in menstrual flow.

2. That in certain cases of interrupted pregnancy in which we have an increased corpus luteum (cases in which hemorrhage was uncontrolled by various styptics and even curettage), the ovarian residue acts as a specific in that the hormone of the in-

terstitial gland balances the action of the corpus luteum, restoring the balance in the endocrine cycle, and thereby controls hemorrhage.

3. I believe that there is an intimate relation between the cells of the cortex of the adrenal gland and the interstitial cells of the ovary. Loeb says these cells are identical embryologically. In two cases too frequent administration produced girdle pains, which could be relieved by diminished or increased administration of ovarian residue. Administration of arsenic (salvarsan) inhibits action of adrenal gland—also checks menstruation when given during period.

4. The marked failure in one case was in my estimation due to the fact that there was a luteic degeneration of the ovary and endometrium and that the ovarian residue could not restore the endocrine balance (or was it due to the intensive mercurial treatment destroying the activity of the injected ovarian residue?).

5. The remarkable action of the ovarian residue was shown in this series of cases, with and without palpable pelvic pathology, in the absolute certainty with which the amount of the menstrual flow could be reduced, the disappearance of the clots, and especially the lengthening of the intervals between menstruations.

6. In two of the cases the mammae were markedly reduced in size.

7. These cases taken in conjunction with a considerable experience with corpora lutea and the whole ovary convince me that we have in the ovarian residue a valuable and useful adjunct to our glandular armamentarium when it is used in suitable cases.

Endocrine Treatment in the Sterility of Women.—Arnold Sturmdorf stated in his paper before the Medical Society of the County of New York Dec. 22, 1919 (reported in *Med. Record*, Jan. 17, 1920) that to arrive at any true estimation of endocrine treatment in the cure of sterility it is essential to govern our considerations by established therapeutic postulates which, reduced to their simplest form, demanded the logical "Why, When, and How" of the method. One must know why endocrines were indicated in order to determine *when*

they were indicated, and to formulate the *how* of their administration. From the therapeutic viewpoint the term sterility was purely relative. Ovulation, fertilization, and nidation, constituted the cardinal phases in the chronologic cycle of conception, and any perversion in their normal occurrence determined sterility. We could not create a function, we could only attempt to activate one existing in a latent state, stimulate one that was deficient, or possibly mobilize one that was tentatively inhibited. The subtle biotactic factors that dominated ovular fertilization and nidation, were all susceptible to inhibiting influences, temporary or permanent, local or systemic, most of which involved problems far beyond our diagnostic horizon and therapeutic scope. The study of endocrinopathic sterility must begin and end with the development and function of the ovary as a link which was reciprocally dominated by every other link in the endocrine chain. The domination of the endocrines on the functional activity of the ovaries manifested itself from fetal life thruout the reproductive period to the stage of senescence. On the other hand, just as the determination of sex was decided in the ovum before fertilization, so the future fertility or sterility of the individual was frequently an ovular preordination governed by teratologic laws and not those of endocrinology. We know that endocrinological disturbances could and did involve the reproductive organs, but we did *not* know how or why such involvement occurred. After calling attention to certain of the relations of the various glands to the female genitalia, the speaker stated that every phase in the clinical problem of endocrinology revolved around the question of diagnosis. Such a diagnosis obviously implied in a given case, the *exclusion of every other pathogenic factor* in the causation of sterility and the elicitation of evident pathognomonic endocrine stigmata. Here we encountered our limitations for, in the present state of our knowledge, it was always difficult and frequently impossible to fulfil these demands. The nearer the symptom-complex conformed to a fully developed or readily demonstrable endocrinologic type, the farther the sterility receded from therapeutic consideration. No one would attempt to treat the sterility of acromegaly, Graves' disease, myxedema, or Addison's

disease. It was the woman with the ill-defined, obscure, and dubiously suggestive stigmata of endocrine disturbance, whose sterility offered the most fertile field for endocrine exploitation. The elicitation of semiologic criteria in these cases demanded the minutest analytical scrutiny of anamnestic, objective, and subjective details. To quote from Timme: "Never be satisfied with the apparently simple answer that might superficially appear, but always insist on tracing back to first beginnings even the most minute complaints referable to endocrine disturbance." The patient was then to be treated—irrespective of her actual gynecologic complaints—on the basis of the original internal gland at fault. The application of direct functional tests, such as complement fixations and deviations, specific ferment reactions, adrenal mydriasis test, the hypophysis test, metabolic studies and sugar tolerance tests along the lines of Abderhalden's theories on the biochemical reactions among the protective or defensive body ferments, while as yet in their probationary stage, gave promise of future light in this perplexing semiologic labyrinth. The diagnostic and therapeutic problems became even more complicated in cases which revealed evidences of an endocrinopathic disturbance plus insidious gynecologic infection. Often a vicious circle was established, in which the sterility with its ovarian origin presented the cause and not the result of a general endocrine disorder. If the same minute analytical scrutiny as applied to sterile women were applied to fertile women, it would reveal some evidence of endocrine disturbance in every instance, for paradoxical as it might appear, we found fecundity in pronounced endocrinopathies as we found sterility on normal women. To treat every case of sterility with endocrines, as recently advocated, was about as rational as to curette or incise every cervix for the same purpose, and would probably yield about the same results. It must always be borne in mind that we could not treat the sterility as such, we could only counteract some apparent underlying factor. Endocrinopathic sterility was neither a hypo, hyper, nor dysfunction of the ovary; the ova were there, but ovulation was in abeyance; whether this was due to the absence of an activating or the presence of an inhibiting hormone we did not know, we

could not tell, and could not consequently formulate any specific therapeutic indications. The speaker pointed out a number of the fallacies in connection with the theories upon which corpus luteum treatment for sterility were based, among them the fact that the active principles of corpus luteum were cyclic, that each phase must necessarily develop a corresponding gradation in biochemic potency; the degree of such potency could not possibly be the same thruout its monthly cycle, for if it were there could be neither beginning nor end to menstruation. This obvious postulate was entirely ignored in the preparation and administration of the available corpus luteum products and explained, in part at least, the contradictory results of their therapeutic application. Therapeutically both adrenalin and pituitrin exercised purely temporary effects on the genitalia; they did not replace the functional activity of the gland from which they were derived. When they knew "Why, When, and How," each of the internal secretions stimulated, or inhibited, when they had learned to recognize synergists and antagonists; when they could formulate their normal and pathologic biochemical equations; when the pharmacologic potentialities of animal extracts as applied to human functions were established, then, and not until then, would the "Why, When and How," of endocrine treatment in sterility emerge from pure empiricism into a rational practice based upon fixed fundamental principles.

The Signs and Symptoms of Hypopituitarism.—Stewart R. Roberts at the Southern Medical Society as reported in *Medical Record*, Dec. 27, 1919, said that undergrowth, dwarfism, dysgenitalis, feminine hirsuties, feminine type skeleton, lack of secondary sexual characteristics, genital atrophy and impotence, headaches, languor, weakness might appear in varying degrees in different cases at different periods. The classical signs and symptoms of hypopituitarism were subnormal temperature, dry skin, adiposity, low blood pressure, slow pulse, constipation, amenorrhea, drowsiness, and inactivity. Lack of attention, impairment of memory, actual dulness, mild psychoses, to actual convulsive seizures with epileptic attacks might occur. The cause

might be glandular deficiency of one or both lobes, a pituitary tumor with damage of the gland, a neighborhood tumor or hydrocephalus with pituitary pressure. The symptoms of intracranial tumor might be more prominent than those of pituitary deficiency. Infantilism, dysgenitalism, obesity, symptoms of intracranial tumor, warranted pituitary study.



Physical Therapy

Importance of Physical Therapy.—

Bainbridge (*Military Surgeon*, December, 1919) emphasizes the important fact that the lesson of re-education, learned by bitter experience during the war, will have been in vain unless the principles are applied to civil life. It has been computed that 14,000 industrial accidents with permanent disablement took place every year in this country, and the average age of those persons injured was between thirty and thirty-five. For the five years ending December, 1917, a total of 16,526 workmen were killed and 49,000 injured in our mines and quarries. For the same period the railroads killed 48,801, and injured 931,764. In New York State during the year ending September 30, 1914, there were reported a total of 88,314 non-fatal accidents. It has been estimated that at least three quarters of a million casualties occur among wage earners every year and not less than a half million persons of working age suffer from permanent vocational handicap.

The scope of physical therapy is not restricted to the treatment of those injured in industrial work, or by accidents, but may be used for treatment in many other pathologic conditions and of various defects resulting from disease. The suggestion is made that civilian hospitals in time of peace shall have departments fully equipped for the employment of physical therapy, so that they can be utilized not only for the treatment of the injured but also, as far as may be possible, secure a maximum of physical efficiency among the general population.

No patient recovering from a serious wound, surgical, or otherwise, should be discharged until every effort has been made to send him out in as sound a condition as possible. Prior to this war it had been the custom to discharge the patient with as little delay as possible. Prolonged immobilization of a joint injury or fractured limb is by no means the best treatment from the viewpoint of the future usefulness of the limb. Early mobilization has preserved the utility of many wounded men.

The surgical experiences during the war have shown that the necessity for amputations has been considerably lessened. Every large hospital and especially those in which surgical cases are treated, should be supplied with the necessary apparatus for using all of the essential forms of physical therapy, with perhaps curative workshop treatment best adapted to speedily restore the patient to physical fitness. This is an economic asset in peace and of value to the country in time of war. The war showed that in every civilized country an undue proportion of its adult population was unfit or suffered from some physical defect. Perhaps the majority of these defects could be remedied by judicious treatment and scientific training. The general population of the countries at war in Europe have undergone a course of physical training. The same thing occurred in this country, to a certain extent.

It is also suggested that civilian hospitals shall be so equipped in time of peace as to be more quickly available by the government in an efficient condition for military service in the event of war. The experience in the war has been that it is difficult to increase the scope of civil hospitals for military purposes without a disorganization of the institutions. The attempt to utilize the civilian hospitals resulted in a great deal of confusion, in difficulty in the treatment of cases and in a mixing of the records. There must be more hospital beds in time of peace—ready for war-time emergency—than in the past. Other observers believe that these plans should be carried out solely by the army and navy. The civil hospital is no longer an establishment merely for the sick and injured, but has become in addition a teaching institution. In former years military posts were isolated in such a manner that it was impossible for the

medical officer to come into contact with his colleagues in civil life or keep in touch with civil hospitals. Today the situation is changed. In Germany the problem of prompt and efficient cooperation between military and civilian hospitals has been fairly well solved and there will be a tendency to copy the methods in vogue there.

A third suggestion is that military hospitals, both temporary and permanent, shall be equipped in such a manner during peace, that when utilized in time of war the maximum medical and surgical efficiency can be obtained. The equipment for physiotherapy has been far too meagre. It is advocated that lay workers be trained in physical therapy, in passive and active movements and in various forms of applied exercises. If physical therapy is to be conducted with success, trained lay workers must be relied upon. The military hospitals equipped in this way could offer the facilities of the physiotherapeutic department to civil hospitals for the treatment of suitable cases. If this were done the treatment could be taken over by the military hospital when required. The results of the proposed equipment and treatment in military hospitals during the war should be:

1. The retention in active service of the effective and the elimination of the non-effective.

2. The prevention, as far as possible, of disabling after-effects of wounds.

3. The restoration of useful soldiers to the Army and sailors to the Navy for active service in the shortest time possible.

4. A minimum of civilian inutility by the limitation of disability, by means of treatment and re-education of men who cannot be cured completely, thus preserving as far as possible their capacity for work in the future.

5. An economy to the State not only thru reduction of pensions but also because men, thru treatment, will be rendered self-supporting and a help rather than a burden to the community.

"Flat Foot" and Other Static Foot Troubles.—Cotton (*Boston Medical and Surgical Journal*, Jan. 1, 1920) classifies foot troubles of static origin as follows: 1. "Flat

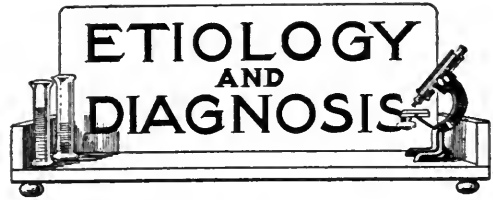
foot: (a) habitual (reducible), which takes in most of the cases; (b) rigid, or spastic; (c) bony. 2. Short heel-cord with or without flat foot. 3. Contracted foot. 4. Anterior arch trouble: (a) "Morton's disease"; (b) "fallen" anterior arch. 5. Hallux valgus: (a) hallux rigidus. Of all these it is Class 1a that fills the orthopedic offices and keeps the shoemaker busy devising and advertising the perfect shoe and the ideal arch support. Each class, with its management, is discussed. The writer's summation of the subject is as follows: 1. Most foot troubles are physiological—"static" in origin. 2. In a large share, bad shoes are responsible. 3. In many bad habits in use of the feet are responsible. 4. In cases of Class 1a decent shoes and properly supervised exercises, properly carried out, will bring about a *cure* in a very large percentage—probably a majority—of the cases, certainly in a majority of the younger cases—below 25 years of age. 5. These are the cases to which plates are too often applied. 6. Plates are still too much used. 7. Plates help, but never cure. 8. "Flat foot" cases, as we feet them, call for either physiologic cure—palliation by straps, plates, etc., *then* systematic exercise, or else they do ill under the routine and call for more or less permanent support, or (rather rarely) for radical correction by manipulation or by open operation. 9. Anterior-arch troubles are readily relieved, as a rule—very often not curable. 10. Hallux valgus (and hallux rigidus) may be palliated effectively, but can be cured only by surgery.

The Field of Physical Therapy.—Medical and surgical procedures will be altered to a considerable extent, claims an editorial writer in the *New York Medical Journal* (June 28, 1919), by the experience gained in the war. The past few years have demonstrated not only that physical therapy is of great value but that its scope is wide. It is now conceded to be essential in surgery. Physical therapy comprises such methods as hydrology, electrotherapy, mechanical treatment, medical gymnastics, massage, and active and passive exercise. The field of treatment is exceedingly wide, and it appears to be applicable to all forms of rheumatism (at least many authorities

assert this to be so), neuritis, nervous conditions, disorders of the heart, postoperative conditions such as adhesions, fractures, paralysis and paresis of nerves, synovitis, fibrous ankylosis of joints, and conditions affecting the circulation such as trench feet, post frost bite, and erythromelalgia. Dr. C. Willems, the Belgian surgeon, has had some remarkable results in the treatment of joint lesions by means of immediate active mobilization of the joint. Mr. J. W. Dowden, of Edinburgh, has recorded successful treatment of fractures, especially fractures of the upper extremities, by passive and active mobilization, without the use of splints. In a special number of the *United States Medical Bulletin*, dealing with medical and surgical progress during the war, compiled by Lieutenant Commander W. Seaman Bainbridge, the treatment by physical methods of injuries and disabilities produced by war is discussed at length. In fact, there has been published a considerable amount of literature devoted to physical methods of treatment brought out by the war.

In any industrial country, and in none more than America, the accidents of peace time are appallingly numerous. Dr. Alexander Lambert, in his presidential address at the recent meeting of the American Medical Association, said that the total of maimed and injured industrial workers each year far exceeds the casualties of war, and that the war had taught the economic value of these injured workers. In this salvage and reconstruction, physical therapy intelligently applied must play a great part.

It is well to emphasize that in order to produce the best effects physical therapy must be applied scientifically, or else the treatment will do more harm than good and will fall into discredit. Medical men must be given the opportunity of gaining sufficient knowledge of the system to be able to supervise treatment efficiently, and those who do the mechanical work must be afforded the facilities for the necessary training. It would seem that the time is approaching, or is even now ripe, for this branch of therapeutics to be made a part of the medical curriculum. If a thing is worth doing at all it is worth doing well. Physical therapy has proved to be well worth doing, and every effort should be put forth to insure its being done well.



Transitory Albuminuria.—Albuminuria is a symptom that is by no means necessarily indicative of a permanent defect of the renal function, says an editorial writer in the June 28th issue of the 1919 *Journal of the American Medical Association*. Ordinarily the proteins of the blood do not obtain entrance into the tubules of the kidneys; but it happens occasionally that albumin is found in the urine of persons in whom there is no occasion to suspect the existence of an acute nephritis. This is particularly true after strenuous exercise. Athletes and others performing severe muscular exercise not infrequently give evidence of a temporary albuminuria. Again, there are persons who excrete protein whenever and only when they assume an upright position. This phenomenon, long known under the designation of orthostatic or postural albuminuria, commonly disappears after a time, and in any event must be clearly differentiated from what is observed in true nephritis. There has been considerable speculation from time to time as to the cause of the transitory or "physiologic" types of albuminuria. For the postural forms there is reason to assume that they are the outcome of circulatory changes in the kidneys. Thus the vasomotor reactions and tonus of some persons on standing in an upright position are not as effective as in the average individual, so that venous congestion may occur to some extent in the abdominal viscera. Excretion of protein follows as a consequence; and it disappears as soon as normal circulatory conditions are re-established. In the case of strenuous muscular exercise, such an explanation is not adequate. There is greater probability of a tendency toward an anemia than a congestion of the renal structures; yet albumin may appear. Bornstein and Lippmann point out that products of vigorous metabolism bring an added factor to bear in this type of transitory albuminurias. In observations on persons engaged in heavy marching, as well as on swimmers, they noted a striking parallelism between the excretion of albumin and the acidity of the urine. The frequency of occurrence of cylindroids also seemed to be related in a similar manner to the concentration of urinary acid. Furthermore, both phenomena of severe exertion—albuminuria and cylindroid formation—were checked by the administration of alkali during the working periods. This is not the first time that acidity and albuminuria have been brought into causal relationship in discussions of abnormal kidney function. We shall not discuss the debated question at this time. The preceding comments are intended primarily to point out that so-called physiologic or transitory albuminurias

may arise under conditions in which the circulatory manifestations are quite unlike. Nevertheless they may still be outside the realm of the definitely pathologic.

Diagnosis of Tuberculosis of the Kidney.—Eisendrath (*Southern Medical Journal*, November, 1919) outlines the following as the most important data upon which to make a diagnosis of renal tuberculosis.

1. *Bladder Symptoms.*—Increased desire to urinate, at first often at night, but later diurnal; painful urination, concomitant with the frequency, which gradually becomes more and more severe; incontinence or great irritability as the bladder involvement progresses.

2. *Kidney Symptoms.*—A dull ache or recurrent colicky pains on the affected side, or on both sides in bilateral involvement. Enlargement of the kidney is a very unreliable finding. The same is true of tenderness over the diseased kidney. Rigidity is found only when the perinephric tissues have been invaded.

3. *Fever.*—There is little as a rule unless there is a mixed infection or a sudden retention.

4. *Urinary Findings.*—Pyuria may be present except in cases of closed pyonephrosis, or in the early stage of mixed infection. Hematuria may be the first symptom or may appear with pyuria at intervals. Tubercle bacilli can be found in the urine in eighty per cent. of the cases by the Forssell or Crabtree methods.

5. *Cystoscopy and Ureteral Catheterization.*—This is the most important single method. Unless changes specific of tuberculosis are found in the bladder it is best to suspend judgment until the urine obtained by ureteral catheterization has been studied by culture and staining methods.

6. *Pyelography and X-ray.*—These yield much information as to the changes in the renal pelvis and parenchyma.

Sarcoma of the Stomach.—Leoper (*Progress Medical*, Nov. 15, 1919) describes a case of gastric sarcoma in an African soldier. The differential diagnosis of these tumors is based on the hour-glass shape of the stomach and the presence in the stomach contents of round cells which are elements of the sarcoma, but are liable to be mistaken for lymphocytes. Fourteen out of 22 operative cases of sarcoma on the outside of the stomach had survivals up to three years. The outlook is much less favorable when the sarcoma develops inside the stomach or works thru the wall into and thru the mucosa. Only 4 recoveries are known in 19 operative cases of this type. He expatiates on the importance of cytologic examination in all cases of suspected gastric tumors.

Diagnosis of Pancreatitis.—Deaver (*New York Medical Journal*, Jan. 10, 1920) points out that the common error in the diagnosis of

acute pancreatitis is mistaking it for acute intestinal obstruction. Diagnosis will rarely be missed if the following points are kept in mind: First, think of the pancreas in all acute upper abdominal conditions, and especially where the pain is so intense as to be immediately followed by collapse, more or less cyanosis, persistent vomiting, hiccough, absence of upper abdominal breathing, very rapid and small pulse; when on examination, the point of greatest tenderness is in the midepigastrium and after the onset of the attack there is a swelling in the epigastric region. This symptom complex occurring in an obese subject of middle age, and often of dissolute habits, should suggest acute pancreatitis. The blood picture is also important and will show some anemia, the result of the hemorrhage into the organ, and a high leucocytosis with a polymorphonuclear increase percentage.



Treatment of Hemoptysis.—The treatment of hemoptysis as outlined by Watson (*Virginia Med. Monthly*, Jan., 1920) may well be divided into (1) prophylactic, (2) immediate, and (3) post hemorrhagic management.

Patients known to be tuberculous should always be cautioned against over-exercise, such as lifting, running, pulmonary gymnastics, singing, etc. Women with a tendency to hemorrhage should be urged to be particularly careful during the period of systemic plethora just prior to menstruation.

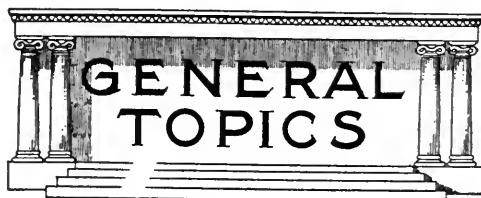
In the case of streaks or small hemorrhages, it has been our custom to merely reassure the patient, ascertain that the bowels are open, and quiet the cough, if present, with small doses of codeine. In large hemoptyses, the patient is usually greatly alarmed, and the quieting and soothing effect of the mere presence of a physician or nurse in whom he has confidence, plays a great part in controlling the bleeding. Frequently he may become so terror-stricken as to necessitate the administration of a sedative, and codeine, gr. $\frac{1}{4}$, usually meets the requirements in that it quiets the patient and at the same time controls the cough. I wish to take this opportunity to emphasize the importance of avoiding, when possible, the use of morphine in $\frac{1}{4}$ gr. doses, which deadens the terminal nerve filaments and allows the blood to clot in the surrounding healthy lung, and may set up a broncho-pneumonia with a resulting spreadout of the disease process. The nitrites are valuable, since it has been proven by Macht that they cause a general vasodilatation, thus lowering the systemic blood pressure and at the same time causing a vasoconstriction of the pulmonary vessels. A pearl of amyl nitrite

is broken before the nose at once, and nitroglycerine, gr. 1-100, is put upon the tongue. The physiologic effect of this lasts about forty-five minutes, and in the meantime sodium nitrite, gr. 1, or tincture veratrum viride, gtt. IV or V is started, being given q-3-h. The blood pressure is recorded every few hours, which is a guide to the dosage. We usually put the patient on a back-rest at 30 degrees, which is the ideal position of rest and one that facilitates the expectoration, thus avoiding swallowing much blood with the resulting nausea. If possible the patient should lie on his back, but we usually advise a position which minimizes the cough. An ice-cap over the heart may help allay its action. Of the various drugs recommended by different authorities I have tried atropine sulphate in 1-50 to 1-25 gr. doses, emetine, gr. $\frac{1}{2}$, coagulose, etc., but they have not been helpful in my hands. Horse serum may be of value, and in two instances I have used diphtheria antitoxin when the horse serum was not immediately available. Strapping the chest with adhesive is often beneficial. Adrenalin and ergot are of doubtful value, and I have only tried them when I was positive that the bleeding was of the congestive type.

Benzyl Benzoate in the Treatment of Dysmenorrhea.—Litzenberg in a paper presented at the June, 1919 meeting of the American Medical Association, made a very interesting report (*N. Y. Med. Jour.*, June 28, 1919) on the use of benzyl benzoate in a series of cases of dysmenorrhea intentionally selected from among college women and nurses, for purposes of accurate study of its effects. Some had stated fifty to eighty per cent. of American girls suffered from dysmenorrhea. At all events, it constituted a serious economic question to thousands of young women. Altho none of the theories of the causation of dysmenorrhea was actually established, the classification of Bloch appeared useful. Bloch recognized the obstructive, the ovarian, and the vagotonic, spasmodic, or idiopathic forms of the condition. In the latter, atropine was the logical remedy, and had been used by the author in doses of 1/150 to one-fiftieth grain with satisfactory results; but it was too powerful an agent to be placed indiscriminately in the hands of patients for use fourteen times a year. An antispasmodic was indicated in place of it, and a suitable one appeared to have been secured in benzyl benzoate, which exerts the same action on smooth muscle as some of the opium principles, in particular papaverine, but is non-toxic. It appeared to act only on the muscle cells themselves. It had already been employed in biliary and renal colic and other similar conditions with success. The best form of administration was in the form of a twenty per cent. emulsion in acacia and aromatic elixir of eriodictyon. The dose was progressively increased, with increasing experience with the drug, to two drams every two hours. Under this treatment, out of forty-three cases of dysmenorrhea, thirty-five, or 81.3 per cent., had been relieved of pain. In twenty-seven cases

the pain had been completely arrested; in eighteen, greatly relieved; in two, somewhat relieved. In six cases no benefit had accrued. Thirty-three patients had been previously treated in other ways, including dilatation, without result. In fifteen cases, relief had been obtained after but one dose of the preparation. Excellent results had been secured in all three of Bloch's groups of dysmenorrhea cases, and also in cases with infection. The best effects of all had been in the spasmodic or essential type of case. The remedy constituted merely symptomatic treatment; yet dysmenorrhea itself was, after all, but a symptom. Anteflexion as a cause of dysmenorrhea was very doubtful. Benzyl benzoate should be tried before dilating. The profession was generally neglecting certain measures which relieved dysmenorrhea. Thus, physical culture, exercise, and hygienic treatment were capable of causing marked results in this condition.

Vaccine Therapy in Diseases of the Skin.—Whitfield (*The British Journal of Dermatology and Syphilis*, April-June, 1919) summarizes his views on the inoculation treatment of skin disease as follows: 1. In certain diseases which usually run a short course under what may be termed ordinary treatment, the inoculation method often achieves brilliant results in the exceptional cases where the disease proves resistant and tends to degenerate into a chronic malady. 2. In most cases of relapsing acute infections of the skin where no constitutional defect and no exposure to local irritants other than bacteria, of course, can be detected, the inoculation treatment very frequently interrupts and brings to an end the series of relapses. 3. In diseases of clearly chronic course, and especially in those in which the skin undergoes obvious structural change, inoculation has, in Whitfield's hands, proved unavailing, tho he has carried it on in hospital patients for two years. 4. In dermatoses apparently dependent on infections of other parts of the body, but not themselves infective in nature, there is some evidence that inoculation treatment of the infected organ aids in restoring to the skin its normal power of resisting adverse external influences. Whitfield adds and emphasizes that inoculation therapy does not absolve us from making as complete and thoro as possible an examination of the patient from all points.



Lack of Sunlight as a Cause of Anemia.—As our modern industrial life grows in complexity an ever-increasing number of human beings

find themselves, as Cook (*Modern Med.*, Jan., 1920) points out, in occupations in which they labor for a considerable number of hours each day entirely cut off from the rays of the sun. Formerly the miners made up probably a majority of those so occupied, but more recently our large cities with their miles of "subways" and the basements and sub-basements of our metropolitan "sky scrapers" have created myriads of new subterranean workers. Now there has always been a distinct belief both among laymen and physicians that a lack of sunlight leads to anemia and, if this be true, we are facing a sociomedical problem of no little importance. With the aim of gaining some experimental data towards establishing the truth or falsity of this generally accepted idea, Grober and Sempell have conducted a series of observations on horses working in the coal mines of Westphalia. These animals had lived continuously underground for from five to ten years, had received excellent care in the way of food, drink, cleanliness, etc., and appeared in every way in fine condition. Determinations were made on the blood of twenty-two of these animals as to the per cent. of hemoglobin and the number of erythrocytes. Compared with the results obtained from healthy horses living on the surface of the ground, it was found that the blood of the mine animals showed an increase of about 12 per cent. in the red cells and a slight diminution in hemoglobin. The depth below the surface at which the mine animals worked was not a factor in the results since the readings from animals living on different levels were fairly uniform and in the same direction. Evidently, then, long continued lack of sunlight causes no anemia in well nourished and well cared for horses.

While it would be wrong to draw from these experiments any very certain conclusions as to the effect of lack of sunlight on the blood of human beings, it might be well to discard our preconceived ideas on the subject and to attempt by properly controlled observations to gain some insight into this important problem.

Hibernation of House-Flies.—The problem of finding where, and in what stage, the house-fly passes the colder months of the year, is one that has been of interest to entomologists for many years, but in spite of numerous investigations, hitherto no satisfactory solution has been obtained. At present, says an editorial writer in the *Lancet* (Jan. 17, 1920) opinion is fairly evenly divided between those who consider that the fly passes the winter in the adult stage, and those who believe that the immature stages are of most importance in the continuance of the species to the following year. Very serious objections can be produced against both views. Altho occasional adults can be found in human habitations during the winter months, they are exceedingly rare, and hitherto experimental attempts to keep house-flies alive thru the winter have failed. On the other hand, altho the common house-fly, *Musca domestica*, can certainly

pass the winter in the immature stages, either as larvæ or pupæ, the localities in which they breed again present difficulties. Altho they have been recorded once or twice from manure heaps, a recent observer, Mr. J. E. M. Mellor, failed to obtain a single example of *M. domestica* after a very careful examination of numerous manure heaps and other likely places during the winters of 1916 and 1916-17. Thirty-nine other species of flies were obtained, some of which occur in houses, but not *M. domestica* itself. In reference to this problem the observations of M. E. Séguy, of Rambouillet, France, are of the greatest interest. These are briefly recorded by Mr. D. Keilin, Sc. D., in an appendix to his article in *Parasitology* (briefly summarized in another column) on flies living in molluscs, and suggest that one way, at least, in which the house-fly may pass the winter is as a larva feeding on snails. M. Séguy placed living snails into a jar containing some larvæ of *M. domestica*, and in eight days the molluscs were completely devoured. Similar results were obtained by confining snails with a few pairs of the adult flies, the newly-hatched larvæ boring their way into the snails and, after devouring one, passing easily into another. Apparently in nature the larvæ can live in the snail during the winter, for out of 50 snails collected in the middle of January no less than nine contained immature stages of *M. domestica*. Should this important observation be confirmed, a very unexpected light will be thrown upon the mystery of the hibernation of the house-fly, and something may then be done to remedy the fate of the "fly-villas," as they have been called, situated within reach of refuse dumps.

Carbolic Acid to Burn.—Before the war, this country's consumption of phenol was about 9,000,000 pounds per year, according to the *So. Cali. Practitioner* (December, 1919). The bulk of it came from England, and was obtained from coal-tar distillates directly. A small part was synthesized from benzol. The general impression here is that this synthetic phenol was made in German plants, subsidized and kept in existence by the government for war purposes.

The production in the United States during the war continually increased. At the time of our entry into the struggle it amounted to 75,000,000 pounds per year, and, after that time, plants were erected so that, at the end, we had capacity to produce more than 150,000,000 pounds. Of this, not more than 2,000,000 pounds were obtained directly from coal-tar distillates by extraction with caustic soda.

At the present time, the consumption in this country is not much greater than 6,000,000 pounds per year, about equally divided between the drug and disinfectant, the dyestuff and the synthetic resin industries. This means that there was, at the time of the armistice, a sudden cessation of manufacture and use on a comparatively huge scale, and stocks on hand altogether out of proportion to the possibility of use in times of peace. In private and gov-

ernment hands today there are, at the very least, 30,000,000 pounds of phenol. The government wants to know what to do with it.

Does One Attack of Influenza Create an Immunity?—The question as to whether one attack of influenza or influenzal disease successfully recovered from confers an immunity to a later acquirement of the disease during the same pandemic or epidemic, has been asked on numerous occasions and has received contradictory answers, says a writer in the December issue of *American Journal of Clinical Medicine*. Theoretically, it must be admitted that the mere fact of recovery from influenza, as from any other infectious diseases, postulates the establishment of an immunity with arrested further multiplication of the bacteria, curtailing their pathogenic action. However, it is probable that such an immunity often is not very lasting, altho it may protect against renewing attacks of the disease within the next few weeks or, possibly months.

The opinion has been expressed that the epidemic of influenza that is expected this fall and winter will be less severe than that of last year because all those very susceptible to the disease were killed off a year ago, and because those now living probably would by that very fact be proved to enjoy a satisfactory resistance. This view is supported by the fact that the influenza epidemic of 1890 was less severe than the pandemic of 1889, probably because the blood of the people acquired immunizing properties against this particular infection.

In discussing this point, Doctor Hatfield, to whose article on influenza prophylaxis we have referred to in the foregoing abstract, knows "of no other preventive used in the spread of the disease that might have played any better part than the acquired immunity from having had the infection the preceding year." He has not been able to convince himself that any patient of all those he attended presented the clinical symptoms of the disease more than once. Indeed, his observations caused him to assume a rather skeptical attitude toward the opinion held by some of the affection appearing in the same individual a second time during the pandemic. He relates that one family of ten became infected with influenza in the early part of the pandemic, and had one infant of two months and one boy of four years who escaped the disease. In the more recent epidemic, which invaded the vicinity, the infant and boy referred to had the disease, but no other member of this family, who had the infection in the pandemic, became infected. He made similar observations in as many as six different families. These facts, and his own convictions from clinical symptoms upon which he was forced to base his diagnosis, convinced him that one attack did seemingly establish an acquired immunity for a period of time longer than first thought by many persons. As to recurring attacks, he found a large number of complications following the recrudescence of the infection that might have been improperly termed recurrences.

NEWS NOTES AND ANNOUNCEMENTS

Centenary of a Great Medical Journal.—With the January issue of the present year *The American Journal of the Medical Sciences* completes one hundred years of uninterrupted existence, being, with one exception, the oldest medical periodical published in the English language. It was founded under the editorship of Dr. Nathaniel Chapman in 1820, and has enjoyed continuous publication since, thru periods of war as well as peace.

Deaths of Physicians in 1919.—During 1919, the deaths of 2,105 physicians of the United States and Canada were noted in *The Journal*. Adding 2.5 per cent. to this number on account of delayed reports and possible omissions, we may estimate the total number of deaths to have been 2,163. As the total number of physicians classified in the American Medical Directory is 159,444, we may estimate that the annual death rate approximates 13.29 per thousand. The average annual mortality for the period from 1914 to 1919, inclusive, is approximately 14.81.

Ages.—The age at death varied from 24 to 100, with an average of 59 years, 1 month and 25 days.

Years of Practice.—The number of years of practice varied from 1 to 76, the average being 32 years, 5 months and 26 days.—*Journal of American Medical Association*.

Dr. Hugh Cumming Named Public Health Head.—Dr. Hugh S. Cumming, of Hampton, Va., has been nominated surgeon general of the U. S. Public Health Service to succeed Dr. Rupert Blue, whose term expired January 15th. Doctor Cumming, who for a number of years was quarantine officer at Hampton Roads, is at present making a study of typhus fever in Europe. It is stated that Doctor Blue will remain in the public health service, probably with the rank of an assistant surgeon general, engaging in research which he has under way.

Opposition to Compulsory Health Insurance.—The following resolution was passed by the Medical Association of the Greater City of New York at the regular meeting held January 19, 1920:

Preamble to the resolution: There is now going on in this State a movement to secure legislative enactments establishing compulsory

health insurance of the wage-earning class. Such legislation appears undesirable and pernicious for many reasons, and especially for the following:

Compulsory health insurance is contrary to the fundamental principles of Americanism, encouraging class consciousness and being essentially Socialistic and destructive of that individualism which is necessary for best national development. If the medical profession, whose members are naturally highly individualistic, can be Socialized, there is no limit to the extent to which Socialism may be carried in this country. The adoption of compulsory health insurance would be equivalent to the acceptance of Socialism as a universal dogma.

Compulsory health insurance would substitute for the medical care and treatment now received by the wage-earning class, medical care and treatment of an inferior character, thereby doing a positive injury to that class.

Compulsory health insurance would also injure the wage-earning class by practically depriving them of the benefit of the personal relation between patient and physician, the great value of which is universally recognized, both in regard to its effect on the character of medical treatment which patient receives and on the patient's peace of mind.

Compulsory health insurance compels citizens to invest their savings in a certain way, and it fixes the remuneration of a class of special workers (physicians, dentists and nurses) without their consent.

Compulsory health insurance would practically deprive the wage-earning class of the free choice of their medical attendant.

Compulsory health insurance would impose on the wage-earning class the annoyance of extensive inquisition into their private affairs by Government officers and agents.

Compulsory health insurance would impose a heavy financial burden on the community.

Compulsory health insurance would damage the medical profession both morally and materially. It would change the character of the occupation of those who participated in it from that of a learned and noble profession, which to a considerable extent is its own reward for hardships and poor financial returns, to a poorly paid, poorly esteemed trade characterized by drudgery and routinism and an appendage to a political machine; and it would, as a preliminary measure, confiscate what is of the nature of property, *viz.*, the medical practices of the physicians, to acquire which they have in many cases worked for years, and from which they derive their incomes.

Compulsory health insurance would lower the general standard of medical practice and the personal standard of the medical profession.

Compulsory health insurance would be a potent factor in checking the advance of medical science.

Compulsory health insurance, by making the profession less attractive, would drive many now practicing it into other occupations, and would discourage many from taking it up.

Compulsory health insurance would invite malingering and idleness.

Compulsory health insurance has proved a

comparative failure in Germany and Austria where it has been in existence for a generation, and where the character of the people and of the institutions makes the field more favorable for it than the character of the American people and institutions. It has also proved far from satisfactory in England.

In view of the facts herewith mentioned, *Be it Resolved*, that The Medical Association of the Greater City of New York is thoroly convinced that compulsory health insurance as we now understand it is both undesirable and pernicious, and that legislation to establish it should be and hereby is condemned absolutely, without reservation.

Committee, George L. Brodhead, M. D.; Nathan B. Van Etten, M. D.; Robert E. Coughlin, M. D., *Chairman*; Edward E. Cornwall, M. D., *President*.

American Congress on Internal Medicine.—This organization, in conjunction with the American College of Physicians, meets at Chicago February 23 to 26, 1920.

The sessions will comprise daily clinical and laboratory demonstrations in many of Chicago's leading hospitals and teaching institutions. There will be several evening gatherings. These will be addressed by men eminent in American medicine. One of the evening meetings will embrace the Fourth Annual Convocation of the American College of Physicians.

Ethical physicians of the United States and Canada who are interested in the advancement of what is best in clinical and scientific medicine and its affiliated sciences are cordially invited to attend all sessions of the American Congress on Internal Medicine. The gatherings will be of great practical and scientific worth.

Hotel accommodations must be spoken for at once. Detailed information with regards headquarters, hotels, clinics, scientific demonstrations, etc., may be secured by addressing Dr. Frank Smithies, Secretary-General, 1002 North Dearborn St., Chicago, Illinois.

Wood Alcohol Poisoning Reportable.—At a meeting of the New York City Board of Health on December 31st, a resolution was passed making wood alcohol poisoning a reportable disease. The text of the resolution follows:

Resolved, That Article 7 of the Sanitary Code be amended by adding thereto a new section, to be known as Section 106, to read as follows:

Sec. 106. Wood Alcohol Poisoning to Be Reported.—It shall be the duty of the manager or managers, superintendent, or person in charge of every hospital institution, or dispensary in the city of New York to report immediately to the Department of Health the name, age, and address of every occupant or inmate thereof, or person treated therein, affected with wood alcohol or wood naphtha poisoning; and it shall also be the duty of every physician in said city to make immediately a similar report to the Department of Health relative to any person found by such physician to be affected with wood alcohol or wood naphtha poisoning.

American Medicine

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In Advance

An Operating Team Ready for Front Line Service.

The picture on our cover this month shows an operating team as it appeared when ready to take up first aid work on the battle field. Consisting of a chief operator, his assistants, one or two anesthesiologists and two trained nurses, it was these surgical units that first ministered to the wounded. Without a thought of the danger to which they were exposed, these brave men and women followed our soldiers so closely that their work was often done on what was practically the firing line. In some dug-out, some half-demolished and abandoned building, or not infrequently in the open, with gas and high explosive shells bursting on every side, they quickly established their dressing stations as near to the line of battle as possible, and the prompt and skilful treatment many a sorely wounded soldier thus received at their hands meant the saving of countless lives, to say nothing of the relief of untold suffering. Working as they had to under the most dangerous conditions, these doctors and nurses rendered services that when they are finally known will constitute some of the finest stories of courage and fearlessness that make up the record of the Great War. All honor and credit to them for the splendid work they did. Not a few paid for their bravery and devotion to duty with their lives, but the price was not paid in vain, for they left behind them something that cannot

fail to help all mankind to live better, braver, more unselfish lives.

Many times these operating teams had to "carry on" during gas attacks, and our particular picture shows the various members wearing their gas-masks. Only those who have gone thru the actual experience can realize the difficulty of operating or doing surgical dressings with a gas-mask in position.

The Child Born Out of Wedlock.—The problem of children born out of wedlock may be recognized as possessing definite bearing upon medicine. Its relations to infant mortality have been recognized for many years. For various reasons, however, organized efforts to combat the problem along social lines have been exceedingly slow. Legislation, education, economic and social adjustments are requisite to correct the condition and, indeed, to offset the part that this condition plays in infant mortality.

Federal estimates indicate that at least thirty-two thousand white children are born out of wedlock in the United States annually. In an attempt to deal with the numerous phases of this problem, conferences have been held in New York and Chicago with a view to determining the basic directions along which state correctional programs should follow.

The gist of the proceedings of these con-

ferences involves complete registration, state supervision and guardianship, placing out or surrendering of children only after investigation and with the sanction of the courts. In the matter of compulsory registration every effort should be made to establish paternity with the recording of the father's name after identity has been established by court adjudication or by sworn admission of the fact.

Parental responsibility for the support of offspring requires an assumption of obligation on the part of the father whether the child be born in or out of wedlock. For this reason the desertion of child and mother merits legal opposition so that the protection of mother and child may be assured in the interest of the child and the state.

The necessity for maternal care during infancy being recognized, every possible step should be taken to persuade the mother to care for her child during the nursing period. When necessary, the benefits of the so-called Mother's Pension Act should be made available in the interest of the state which claims the child as its ward during the period of its minority.

These indications of a renewed attack upon the questions of individual and social health as involved in the problem of a child born out of wedlock suggest an altering attitude concerning responsibility for child welfare. It is patent that medical procedures alone are insufficient to redeem the infant mortality incident to this social problem without the application of various types of agencies ordinarily regarded as non-medical in character. In a broader sense, however, every phase of social endeavor which actually lessens disease and lowers mortality may be deemed a health measure. This is a specific instance of the border-line of

sociology and medicine requiring the institution of medico-social administrative agencies of sufficient breadth and forcefulness to achieve desired and necessary results.

The child born out of wedlock is none the less a child and the questions of so-called legitimacy should play no part in its right to survival. Conception may be in violation of acknowledged traditions or the laws established for the preservation of monogamy, but the legitimacy of birth, in a higher sense, is not to be questioned. Nor is there wisdom nor reason in penalizing the product of conception for the intentional or unintentional social and moral dereliction of its parents. While the state must take cognizance of the violation of its laws, it is hardly just that the state should permit the penalization of the offspring or permit the sacrifice of children for whom it professes a superior interest and sponsorship. The mortality of children born out of wedlock is recognizedly disproportionately high. The reasons therefor are to be found in social inadequacy in dealing with the facts.

As a result of war experiences an increased number of children have been born out of wedlock. Various nations of the earth have been aroused to a realization of the importance of this subject and in the interest of repopulation are seeking to take active steps to preserve the health and welfare of these children formerly regarded as outcasts, and stigmatized with opprobrious legal epithets. Fortunately, the problem in the United States has not assumed the proportions existent in European countries. The fundamental reason for attacking the problem, however, exists in America as certainly as it does elsewhere. While efforts to make amends for our faulty medico-social treatment will not suffice to abate the actual causes, they will at least serve to les-

sen infant mortality and afford some justice to the children whose parentage has developed in violation of traditional laws and a jealously guarded code of morals. From the medical standpoint the child born out of wedlock is entitled to every safeguard of its health and vitality that exists for its brothers and sisters whose parentage is in full accord with the legal and moral standards created by communal activities.

The Prohibition of Tobacco.—The agitation developing against the rigid enforcement of the prohibition amendment is reflective of the vacillation of judgments. The questions of state rights or the interpretation of the term "concurrent legislation" may serve as a tangible legal basis for testing its constitutionality. The motives lying behind the attempt to decrease the absoluteness of the enactment lie more deeply in the consciousness of men and are vitally concerned with questions involving appetite and opinions about the alleged benefits of the moderate use of alcoholic beverages. The "Rum Rebellions" are symptoms of unrest, dissatisfaction and resentment against deprivation of an agent that is believed to be conducive to personal welfare and contentment, regardless of the manifest dire results upon the race, as noted in social, medical and economic facts. There is a real conflict arising in the minds of many people who find themselves unreconciled to accepting prohibition as a helpful necessity.

It is not improbable that sumptuary legislation will seek new channels now that John Barleycorn has apparently been deposed. Possibly the tobacco evil will be enlarged upon and an effort made to restrict its ravages, with a view to eventually legislating

it out of existence. A demand for the abandonment of the use of tobacco would immediately create vigorous opposition. All pleas as to its extravagance and uselessness would be opposed by arguments relating to its value as a comfort, a stimulant and an inspiration. The fight against smoking will be vigorously contended in the face of a tremendous defense.

As W. A. Bloedorn points out in the *Medical Record*, January 31, 1920, during the war, tobacco filled a much-felt want. Recognizing that the craving by the men was greater than would have obtained had the soldiers and sailors remained at their usual occupations, tobacco gave solace, provided an outlet for pent-up emotions, soothed, reconciled and satisfied. Under conditions of storm and stress the abused cigarette was productive of calmness and self-control and kept at a distance the vicious shadows of loneliness and homesickness. Despite these virtues many were opposed to the use of tobacco as fostered by governmental sanction.

It may be granted at once that all people cannot use tobacco in moderation and that for some it is a poison. This is equally true, however, of tea and coffee, eggs and cheese, oatmeal and cream. The dangers of over-indulgence exist for all forms of foods and beverages as well as for tobacco. One would hesitate, however, to legislate out of existence oysters and crabs because some people suffer urticaria, edema or digestive disorders from their use. Some people never attain tolerance for lobster or fish or strawberries, but this fact would scarcely serve as a reasonable basis for depriving other persons of foods of this character. It may be urged that such substances are not of a habit-forming class and in consequence their use is not habitual. This,

however, is not true of tea and coffee whose effects upon the race are probably no less deleterious than the use of tobacco.

It is true that, for some persons, tobacco increases the pulse rate, heightens the blood pressure, produces symptoms of cardiac irritability and may occasionally cause a toxic amblyopia. Considering, however, the large number of tobacco users it is undeniable that these unhappy symptoms rarely appear. Would it be reasonable to base the prohibition of tobacco upon the fact that a few individuals per million should not make use of tobacco because of its toxic effects upon them?

Regardless of the chemistry of tobacco and the variety of physiologic effects which may at times follow smoking, it is unquestionable that the psychic effects of smoking are far more important than all others. Indulgence in tobacco is for pleasure, restfulness, relaxation and the relief of tension, and these results are achieved with a minimum or permanent or unpleasant after-effects. In the words of Bloedorn, "Before attempting to legislate it out of existence let us analyze the origin of its enormous demand. Reduce the tension under which we live, relieve the fierce struggle for existence, the crowding, the jostling, the striving for advancement, for gain; provide a means of relaxation, of recreation and we shall have gone far to supply a substitute."

It is not probable that for many years to come social and economic conditions responsible for the existence of tobacco will be completely relieved. It is doubtful whether under ideal circumstances and conditions the demand for smoking would cease. In all likelihood tobacco and smoking in its various forms offer a measure of contentment without danger to the race, so that the reasons for its prohibition will pos-

sess little force at any time. The constant stressing of physical disadvantages does not suffice to offset the more numerous psychic benefits. Possibly the use of tobacco may make the soldier's aim less certain, but it also may make it possible for the soldier to be able to take any aim at all. There might even be an advantage in the uncertainty of aim when all armies are composed of smokers. To call the use of tobacco a dissipation is a matter of interpretation of the word. From the standpoint of economic and physical welfare, it is probably less harmful and freer from unpleasant results than such dissipations as coffee drinking, tea bibbling, the ice cream soda and the candy habits. Dissipation carries with it the idea of excess; all excesses are undesirable.

When the pendulum of reaction has swung over as far as it will, oscillations will be rapid until the national prohibition amendment finds its normal range of movement. The great American experiment in legislative prohibition will have its opportunity to evidence its accomplishments and the people will have had a chance to indicate their willingness or unwillingness to be legislated into personal self-control. The benefits of the amendment are undoubted, but the difference between the uses of tobacco and alcohol are so numerous and the physiologic effects are at such great variance that the results of national prohibition will constitute no argument for the prohibition of tobacco. Steps are already being taken, seeking to restrict the consumption of tobacco. While sympathy and support are found for its limitations for the immature, there is thus far apparent no wide-spread enthusiasm for curtailing the privilege of its use among those sufficiently mature to realize what they are doing, and there is

no implication that this usage is one fraught with the elements of danger. Let those for whom tobacco is a poison cease its use as they would if they found they were being poisoned by eggs or coffee.

The Prevention of Pellagra.—In the consideration of diseases which apparently are growing in extent, pellagra stands out as a type of preventable disease, challenging investigation and attention. In the mortality of 1911, pellagra possessed a rate of .2, which had increased in 1917 to a rate of 4.9 per one hundred thousand population. The greatest increase was observed in the rural parts of the registration states.

Pellagra, while not generally known throughout the United States, was responsible for a larger relative mortality during 1917 than malaria, scarlet fever, smallpox, anthrax, rabies and even acute articular rheumatism. This condition is probably due to the fact that these diseases have received considerable attention at the hands of the health administrators, or are so uncommon as to be productive of prompt administrative resources immediately upon their occurrence and the report of their existence. Pellagra, on the other hand, has received insufficient attention largely because of the fact that its prevention and cure lie within the realm of family organization.

It is socially significant that more than one-half the deaths from pellagra occur between the ages of twenty and fifty years, or the years of greatest productivity. It is noteworthy that the mortality rate is two and a half times as great among females as among males. There is also reason for thought in the fact that the general mortality from pellagra in absolute numbers is

practically identical for white and colored persons.

The causation of pellagra with its main symptoms of dermatitis, diarrhea and dementia has been determined. The careful researches of Goldberger and others have made clear that faulty dietaries are responsible for its existence. The incidence of the disease is not dependent upon social or economic status directly, but is thoroly conditioned by an unbalanced diet particularly lacking in protein constituents.

The prevention of pellagra depends upon the procuring of a well-selected and varied diet, rich in lean meat, milk, fruits and vegetables. Fresh air, exercise, pure drinking water, adequate sewage disposal, well-ventilated homes and similar hygienic necessities probably are of importance to the same extent that they are effective in preventing many other disease states.

The difficulties that surround the milk supply and which limit the securing of this important food stuff in quantities are active factors in predisposing communities to the development of pellagra. No single food possesses more virtues in the control of pellagra than milk. Meat is of great value in promoting dietary balance for those who, for some reason, are unable to secure an adequate amount of milk. Similarly dried peas and beans, particularly the soy bean, possess unusual values for supplying the protein nutrients so valuable in preventing pellagra.

As thymol or chenopodium is effective in controlling sleeping sickness, or quinine is valuable in lessening malaria, or mercurial inunctions are prophylactic against syphilis, so a substantial, balanced, full protein dietary is effective in lessening the incidence of pellagra. Diet is the main requisite and is practically a specific, thus seemingly making

the control of pellagra a simple matter in dietetic instruction. Medicines are valueless and the advertisement of cures or preventives of pellagra, based upon the alleged virtues of particular medicaments, is an exploitation of ignorance and should be prohibited.

In those sections of the country where pellagra is prevalent there is a wastage of life and power due to sickness, invalidism and death which might be prevented at the cost involved in the employment of dietitians capable of imparting sufficient information concerning the science and art of eating. As is well known, educational procedures possess more permanent effects in proportion to costs than any other form of sanitary improvement. The elevation of standards of nutrition and the imparting of knowledge concerning food stuffs is of primary importance in the control of pellagra and for this reason should be more generally employed particularly in the South, where meat and milk play a less active part in the general diet of the people.

While it is true that the poor man is frequently found to be the chief sufferer from pellagra, the cause is not to be placed entirely on the plane of financial stress, but rather on the ignorance which is so frequently a marked characteristic of those also suffering from poverty. At this time, however, when food prices are high and proteins particularly are difficult to secure at moderate costs, it becomes more necessary to stress dietetic effects as related to family incomes and particularly to the food expenditures as allowed in the family budget. Unless efforts in this direction are taken it is not improbable that the year 1920 will be reflected in an increase of pellagra thruout the country.

The problems of economic dietetics merit

recognition particularly in their relation to the causality of disease. Probably no field is productive of greater beneficial results than the development of nutritional clinics and the appointment of visiting or traveling dietitians. If further effort is made to improve nutritional standards there is no reason why pellagra should not be relegated to the category of preventable diseases that are really being prevented. The continuance of this disease is an evidence of failure in health education and, as such, constitutes a blemish upon the record of public health administration.

Food Spoilage and Edibility.—The reporting of a number of fatalities in different sections of the country, attributed to the ingestion of ripe olives, has aroused public concern in botulism. Previously a comparatively rare disease, botulism has become relatively more common, due to the increased use of canned foods that have been improperly safeguarded thru adequate sterilization.

Investigation by the United States Bureau of Chemistry has shown that the fatalities due to taking ripe olives have arisen from the fact that the process of sterilization employed in the case of the olives packed in glass usually has been inadequate. The danger is not inherent in ripe olives, but is fostered thru insufficient heating at a temperature sufficient to insure the destruction of the *bacillus botulinus*, if this organism is present in the ripe olives.

According to *Public Health Report*, February 19, 1920 botulism also has been traced to home-canned vegetables, such as string beans, asparagus and corn. In these instances also, sterilization was incorrectly

applied and resultant food deterioration was accompanied by a growth of the deadly organism. What is of more striking importance is that "in practically every case of botulism the food was shown to have an offensive or abnormal odor." Under these circumstances there would appear to be little reason to account for poisoning, save a lack of appreciation on the part of individuals that all spoiled food is potentially dangerous. Small amounts of toxin generated by *bacillus botulinus* are fatal, and the only safeguard against this effect is the avoidance of all food products that suggest the slightest deviation from freshness and freedom from spoilage.

It is manifestly impossible for any state or national bureau to exercise complete oversight over every can of preserved food stuff that is to be offered for sale. Legal seizure becomes possible when foods are actually decomposed or found to contain poisonous ingredients. This protective ruling does not insure safety, because this system of organization would not permit the inspection and testing of the millions of containers that find their way into interstate commerce. Nor is there any provision for the investigation of food stuffs canned within the home for home use. Furthermore, there is no single method whereby housewives may determine whether the *bacillus botulinus* is contained in any food that is being canned in the home.

Food preservation possesses a certain degree of adequacy when sterilization is properly effected and the container is perfectly sealed; but with the best technic occasional spoilage occurs with the most careful canner. The greatest protection against botulism lies in the awakening of the public mind to the fact that with the slightest appearance of spoilage upon opening the container

the edibility of the product should be questioned and for the sake of safety it should not be utilized in the dietary. The existence of an abnormal odor, the presence of fermentation, the appearance of moulds, sliminess, granular disintegration and similar signs must suffice to indicate to intelligent housekeepers that the canned product, whether in glass or tin, is unsafe for human consumption.

The danger of botulism is not inherent in the food product itself, but must be attributed to faulty sterilization and a failure of technic in food preservation. The single warning that is rational lies in the statement that the slightest spoilage of food declares it inedible.

Universal Health Training.—For many years the experiences growing out of the war will be referred to as the basis for urging various reforms or alterations in our methods of sanitation and hygiene. It is natural that the surgeon general of the army should point out the physical and hygienic benefits of military training. In the *Journal of the American Medical Association*, February 21, 1920, after referring to some of the important defects revealed by the draft, he refers to the general improvement of the men that resulted from military life. He points out a number of obscure and latent pathologic conditions which were disclosed as the result of examinations and suggests that universal military training would lead to a continuance of such revelations of undetected diseases.

Every argument employed, however, in favor of universal military training on the basis of individual and social health benefits is even more of an argument for an extension of similar procedures for all parts

of the population. The examinations preliminary to military training completely ignore the necessity and benefits of a similar examination for the feminine portion of the population for whom similar hygienic measures and physical examinations are equally indicated. Granting all the benefits to the country that arose from determining the physical welfare of citizen soldiers, the real lesson to be learned is the necessity for more careful supervision of the growing population. It should not be necessary to await induction into military service before ascertaining remediable physical defects or permanent handicaps that lower the potentials of effective citizenship. Defective vision and hearing, incipient tuberculosis, deformities, hernia and venereal diseases, for example, should not be allowed to continue for a number of years before receiving such attention as was urged for draftees found to be thus handicapped.

The real lesson of the war in this direction thoroly demonstrates the necessity for continuous health surveys during all epochs of life for boys and girls, men and women, with a view to noting the beginnings of these conditions and securing adequate relief for them at the earliest possible moment. What is required is a continuous health oversight that will lead to a more or less immediate detection and correction of potential disabilities. Furthermore, reasons are patent for demanding an improvement in education in the homes, schools and industries with a view to lessening or palliating and eliminating when possible the environmental conditions conducive to personal deterioration. In this connection one finds greater assurance of pronounced benefits from the medico-social agencies already in the course of development which have

evidenced their beneficent purposes and values along lines that promote the physical, mental and moral welfare of the race.

Universal military training and the physical examinations involved therein would possess no value in the reduction of infant mortality, in decreasing the contagious diseases of childhood, or in promoting the safe conduct of boys and girls thru the period given over to educational life. The systematic development of prenatal care, infant welfare stations, health classes, health centers, medical inspection of schools, district nursing, examination for employment certificate, periodic examination of workers and the general improvement of conditions in homes and industry are of far greater consequence in helping to provide potential soldiers and workers, homekeepers and mothers than any system of physical examinations as a prerequisite to military service.

The more powerful lesson that has arisen from military experience is the degree of failure which has attended our careless policy of failing to supply sufficient and adequate safeguards for the growing generation. That 29% of men examined in the draft were found to possess physical disabilities disabling them for military service is indicative of the extent of the problem which had been inadequately solved. The fact that only 53% of draftees "were accepted as fully meeting the physical standards and no defects recorded," is an indication of the tremendous responsibility which must be met in counteracting a continuance of this low standard in the interests of individual and social welfare.

The solution of problems involved in the physical welfare of adults cannot be set aside until such time as a demand for military training may force the issue. Sane processes of thought call for earlier atten-

tion to physical welfare with a view to securing the maximum results in the prevention of degeneration, disabilities, diseases and accidents.

The universal training that is most certainly indicated is that which provides for the education of municipalities and states in the science and art of health conservation along the various lines which have demonstrated their value and efficacy. Universal health training possesses rich rewards for all types and groups in the population, as opposed to military training which concerns itself practically only with adult males capable of bearing arms. Health education and health training possess a tremendous constructive idea for racial improvement that gives them a claim to be hailed and welcomed on the basis of universality.

Endocrinology.—Knowledge concerning the endocrines is slowly increasing. From the mass of literature of manifold fact and fancy there will some day arise a certain residuum securely founded upon physiologic data and observations derived from the study of anatomy, pathology and clinical experience.

In the unfolding of any field of medicine as a new branch there is usually a vast amount of dogmatic statement born of enthusiasm and fostered by desire and interest. Too frequently a single phase of medicine is heralded as a panacea or as a cause that will account for most everything in life. The itch mite was once suggested as the ultimate cause of all disease. The X-ray and radium were received with enthusiastic furor as almost universal therapeutic factors. Salvarsan was welcomed as an agent to cure syphilis without fail. Waves of interest in particular systems of the body

have been followed by disillusionment and reconstructed ideas.

At the present time some endocrinologists are writing in a hypertrophied manner, claiming far more than is reasonable or that can be demonstrated on the basis of present knowledge. As an illustration one may cite Bandler's discussion of the "Instincts, the Emotions and the Endocrines in Sterility." *Medical Record*, March 6, 1920. Endocrine action is suggested as the dominating factor in the mental and psychic matter of man. Physical resemblances of hereditary type are alleged to be due to like endocrine actions. "When people totally unrelated resemble each other it shows that they are the product of like endocrine action and relation. If they resemble each other in disposition, traits and character it shows that they possess corresponding and similar endocrine activity. When people are peculiar and abnormal any who have the same deviations from the normal suggest that like or similar endocrine activity has taken place in either. When individuals have a psychosis of any definite distinct type and their symptoms are alike it suggests the same disturbance of endocrine action and interplay in two totally unrelated individuals endowed with like instincts and emotions. When individuals having the same type of psychosis react in the same way in their attitude and show more or less the same psychic elements of reaction one is justified in regarding their endocrine interplay as approximately the same." The underlying reasons for these statements are not adduced nor is there sufficient available knowledge to warrant statements of this character.

Along with dogmatism, vagueness and an air of mystery surround the growth of new phases of medical treatment when authori-

tative experience and facts are inadequate. In the article referred to for example, several pages are devoted to the use of endocrines in the treatment of sterility, but there is no frank statement of the actual part any single endocrine gland plays in the actual production of sterility. There are references to endocrines, "which act trophically on the uterus or which inhibit the menstrual stimulus." He refers to ovarian substance, the thyroid glands and the hypophysis, and the thymus that sometimes inhibits ovarian activity. Placental extract is supposed to offset posterior pituitary hyperactivity which conditions repeated miscarriage. The thyroid is the great activator, "it is the great fixer of impressions for all things in the sphere of memory, especially for all things not associated with those instincts and emotions which are specifically associated with the activity of other endocrines." Adrenalin out-pouring is responsible for the dreams of a child going to bed in anger.

Dosage is not mentioned, nor definite combinations of the various endocrines which may be most useful in the different types of sterility that are not due to tubo-ovarian, inflammatory and tumor conditions, or abnormal conditions of the male partner. The sum total effect of the article is that it presents some phases dogmatically, others with vagueness, but all parts with one-sided enthusiasm, without any suggestion of a lack of sincerity or a desire to make a one-sided presentation.

One is almost tempted to ask what endocrine disturbances account for these unscientific tendencies on the part of endocrinologists? How far are the deductions based upon immature observations; how far are they based upon proven physiologic, pathologic and clinical findings? The subject is of undoubted importance and the un-

folding of facts deserves every encouragement. Time will disclose with exactness the part that the endocrine organs play in human growth and development and their influence upon the physical, mental and moral phenomena involved in human welfare. Gains in our knowledge do not arise from overstatement any more than importance is developed by understatement. There is, however, greater danger in the acceptance of alleged facts from unbounded enthusiasm, insufficiently based upon adequate data.

Our knowledge concerning the endocrine organs is growing rapidly. Every phase of investigation merits encouragement. The results of research are sought and welcomed; the results of testing on animals are applied in the domain of human affairs. The effects of therapeutic efforts are watched with untold interest. Endocrinology, however, must not be handicapped by unsound dogmatism on the one hand, or confusing vagueness on the other hand. The facts will furnish the demonstration, the proof and the test of endocrine powers and will finally determine the important place endocrinology is to possess in the sphere of medical application.

The Patient.—Admonitions by medical men to medical men are always desirable. Too frequently in the routine work of medical practice one hews too closely to the line of pathology. The disease is regarded as the essential factor demanding treatment. Hugh T. Patrick properly directs attention to "The Patient Himself," *Journal of American Medical Association*, January 10, 1920. As he phrases it, more thought is required for "the patient above

the eyebrows." The need for this suggestion is apparent.

The growth of pseudo-medical cults and the development of various types of charlatanry, are largely based on the failure of medicine to give adequate thought to the personality of patients, and its failure to regard the victim of disease as the unit. Medicine dwells more upon the disease and disease states, while non-medical cults concern themselves with the patient as a human being. Under these circumstances there is no occasion for astonishment or wonder at the popularity of the all too numerous cults. The elements of fear, eroticism, maladjustment, financial stress, discouragement, and familial jars may be responsible for the vast congeries of symptoms that are subjective in type, altho not infrequently of objective character. The numerous so-called functional disorders may be treated unsuccessfully for years, unless cognizance is taken of disappointment, resentment, anxieties, thanatophobia, or similar other factors of psychic origin. The measure of an organic disease cannot be fully determined without first disassociating the influences that are bound up in psychic welfare.

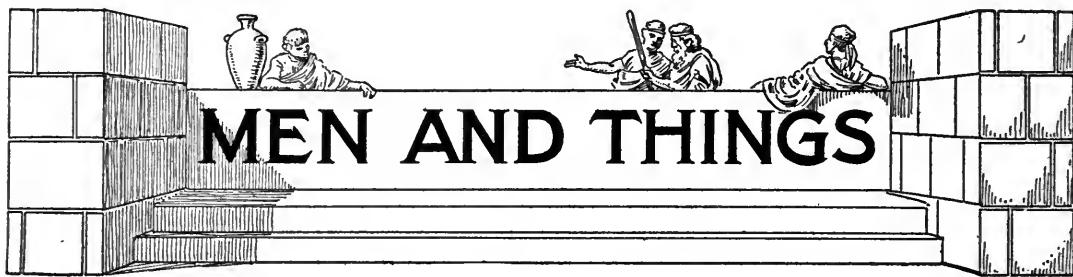
The psycho-neuroses represent an escape from the realities of life and despite the complications of determining their origin, failure to unravel their mysteries results in a lack of success in overcoming the essential source of disturbance. How frequently are the causes of headache, insomnia, indigestion and exhaustion unrevealed because of a disregard of the personality presenting the individual symptoms.

It is well known that the majority of diseases are self limited in course and recovery would ensue regardless of the service of a medical attendant. The psychic influence emanating from physicians is responsible for much of their reputation and incidental

success. The very confidence they engender is evidence of their personal power to carry over to the mind of the patient hope and optimism, in the face of symptoms that appear to be threatening or endangering their permanent welfare. How far short do diagnoses fall when operative procedures are employed for the relief of alleged states which promptly recur after the operation has been adjudged successful.

The unity of the human organism involves the integrity of the physical, mental and moral components. Complete diagnosis is assured only when careful study and investigation have been made along each of these lines. The vast symptomatology of overwork merits as careful consideration as the symptom-complex of arteriosclerosis. It is simpler to resort to the laboratory for an investigation of physical conditions, than to probe into the various incidents intimately associated with the mental life of the patient, and causing an upheaval that is reflected in loss of weight, insomnia, pelvic distress, abdominal pain, neuralgias, and similar patently vigorous expressions of disorder which might possibly be interpreted as being on a purely physical basis.

It is practically impossible to treat successfully a considerable proportion of pathologic states without an understanding of the disease potentials latent in the cerebrospinal sympathetic system. A knowledge of behavior, and the relations of emotions to conduct are still in their infancy. From the standpoint of clinical understanding this is a marked disadvantage in numerous instances where the recovery of the patient is largely dependent upon a recognition of the psychic maladjustment in order to secure a relief from the distressing physical symptoms. These possibilities are present only when a higher degree of consideration is given to the patient himself.



Myopia and Milk.—It was one of the strange phenomena of modern society that the old czaristic régime of Russia, despite the tendency toward democracy thruout the world, maintained its bureaucratic and tyrannical rule without any concession to evolution. Rather than make these concessions, the Czar chose the inconvenience of riding about the country in armored cars, traveling with a heavy guard of detectives and soldiers always within sight of him—and serenely went about his business in the confidence that the House of Romanoff would always maintain its power and glory. But the students of history shook their heads. "The staff," they said, "that will not bend will break." And they proved right. The House of Romanoff fell, the whole bureaucratic system of Russia toppled like a tower of cards. If Nicholas had yielded, as other tyrants had yielded, to the demands of the masses for a humane system of government, he might have been alive today and enjoying the privileges of a generous ruler. But he was blind to the lesson of history, and he paid heavily for his blindness. The oppressed masses were slow to rise, but when they did their rage spared nothing of the old régime.

Everyone studies history, but few learn its lessons. Certainly the milk magnates are woefully ignorant of the history of the past five years or they would not have had the hardihood to resort to measures so wornout and anachronistic as they have recently—measures which must ultimately prove their undoing. The myopia of the late Czar is nothing compared with the myopia of the milk magnates. They have not learned that the patience of the masses is enduring but not everlasting; that silence is not submission; that in this silence the violence of the masses grows; that there may be no signs by which they can anticipate the vengeance of their victims by last-minute concessions;

that when the smash comes it comes suddenly and without warning, allowing no time for bargaining. The milk magnates ought to know all this, but they do not. Hence their order, made public with amazing *sang-froid*, that the farmers and dairymen keep down their milk production in the coming months, when milk would naturally be plentiful and cheap. This order comes at a time when the eyes of the public have been opened by investigations revealing an appalling degree of malnutrition in the children of the city, due in large part to the forbidding cost of milk. Now that it might be within their reach at last, it is not to be had. What can the patient public think of this? What do the milk magnates expect the public to think? Explanations about the milk export demands ceasing are not sufficient. "Fine," the public will say. "It was the demand for milk in Europe that made it so scarce and expensive here. Now we can have plenty and we ought to have it cheap." However, milk will not be plentiful nor will it be cheap. Will the public, the long-suffering, inarticulate, patient public, say nothing when the warm days come and its expectations are not fulfilled? It is not likely. The people have learned a great deal in the last five years. The war has taught them. It has also taught the really big men of business and finance. In 1910 it was possible to dump cargo after cargo of vegetables and fruit into the bay in order to keep up the high prices of these articles of food. In fact, it was done again and again, with only a muttered protest on the part of the public and the press. In 1920 it cannot be done. It is inconceivable. The day after the milk distributors made their announcement the newspapers responded with a bitter and unanimous attack. The public expressed its indignation and protest thru all the organs at its command. There wasn't a good word said for the distributors. They should take

heed from this indication. Their purpose is manifest. The milk export market being closed, the domestic market would be over-supplied and the prices would go down. Larger sales would result, of course, but these larger sales would mean more employees, more work in distributing, more trouble for the distributor, and this added trouble the milk magnates will not accept. What importance has the wellbeing of the public when it interferes with the wellbeing of the magnates? Why go to all that trouble when things are as nice as they can be? Profits are high, labor is reduced to the minimum, details are likewise reduced—everything is well. And the autocrat of the milk bottle is supremely contented. But the Czar, too, was supremely contented. His example ought to be a warning, but it isn't. Some men have read the handwriting on the wall. Captains of finance like Mr. Vanderbilt, captains of industry like Mr. Schwab have kept their finger on the pulse of the times. They have yielded to common sense and the spirit of a new era, and they have met the demands and the needs of their workers with a commendable respect for the laws of progress. But there still remain bureaucrats of a certain type who persist in superannuated methods and who not only endanger their own existence but threaten to bring down with them, when they fall (as they must), colleagues who have not sinned as heavily as they. An angry mob does not pause to make fine distinctions. It is as much the duty of financier and employer to destroy the bureaucrats and Bourbons of their day as it is the necessity of the public to do so. Whether they will or not one cannot say. But meanwhile there is a sure way to put a term to such great power in the hands of unscrupulous men: government control. As usual, Dr. Copeland, Health Commissioner of New York City, strikes at the root of the trouble when he recommends state control of milk prices and milk distribution. The suggestion is an excellent one and easily carried out. The Thompson-Pellett Bill, now before the New York Assembly, provides for control by the state and also makes provision for a zone arrangement, so that half a dozen different companies will not deliver to the same locality, a procedure in no small measure responsible for prevailing high prices. The measure should be passed by the Assembly

and Dr. Copeland should be commended for his efforts to bring about its passage.

Red Blood and Pink.—A few days ago there appeared in the *New York Tribune* a cartoon by that clever artist, Darling, which deals a stinging, deadly blow to a misconception of Americanism which seems to have become current and which has many guileless advocates. The drawing shows a stalwart figure of Uncle Sam, muscular, capable, potent, looking across the seas to Europe and witnessing a heartbreaking scene of destitution, helplessness and misery. He seems to be wavering in his decision as to what his duty may be, tho he appears willing to lend a hand. Behind him is a timid, shrinking figure cautioning him to mind his own business and appealing to him as a red-blooded American to stick to his own country. This uncourageous figure represents a type of citizen whose interpretation of red-blooded Americanism is the most pink-blooded provincialism and selfishness conceivable, and the cartoon holds up to ridicule more withering than words could ever achieve a faltering, inhuman, ungenerous attitude toward the sufferings of mankind which is as un-American as anything we can well imagine. And yet it is the attitude that has been adopted not only by a sprinkling of leaders but a vast multitude of men and women thruout the land. Minding one's business is an admirable trait, but it is questionable whether a real, red-blooded individual would claim that as his most commendable virtue. And we can conceive no more reprehensible trait than minding one's business when one's neighbor is making frantic appeals for assistance and succor. Europe is begging for our help and we are being counseled to turn a deaf ear to these desperate entreaties. Europe is starving. We need food, let's keep it ourselves. Europe is disease-ridden. We need doctors and medicine for our own sick. Europe's finances are threatened. We mustn't meddle with our prosperity and comfort. What would Washington, or Jefferson, or Lincoln say to such smug and brutal isolation? Surely, the founders of this country did not have in mind, when they cautioned their people against entangling alliances, such complete indifference to acute suffering, tho

the sufferers are alien men, women and infants. That it was the common understanding that this was not their meaning, our entrance into the war proved beyond dispute. The need of humanity was our need and there was no hesitancy in the decision that America was kin to all threatened peoples, whatever differences the map showed. Now that the war is over, is America to slink back to the cover of a pretext which it once and for all discarded in 1917? It is possible to understand an aloofness that has its origin in political caution, but to defend isolation on the ground of red-bloodedness it is impossible to understand. The doctor who refuses to visit a patient stricken with a contagious disease on the ground that he may contract the disease himself or bring it home to his wife and children might stir a little contemptuous sympathy, but not even the most courageous and impudent champion could attribute his conduct to red-bloodedness. America enjoys enormous advantages by the mere accident of its position on the globe. It is thousands of miles away from the intrigues and complications of European politics. It is separated from the powers that rule the Eastern hemisphere by a body of water which renders it immune from aggression. And, on such slight ground, the Red-Bloods wish to build a policy of non-interference and isolation. Europe is afire; and, just because America happens to be secure in a fire-proof house, she oughtn't to lend a hand to extinguish the flames. If this is red-blooded Americanism, God save the mark! Even a red-blooded Hottentot would be more magnanimous.

Telephones and Tragedies.—A well-known undertakers' syndicate has achieved a really great popularity by the clever press-agent trick of making a slogan of its telephone number. "Call Columbus 8200" has become almost a household phrase. It originated as a serious attempt at advertising, but, alas, it has become a subject for only jest and merriment now. This corruption of an excellent slogan should not be laid at the door of the very excellent press agent. It is the telephone service which is responsible, for the thought of making an urgent call by means of that useless instrument, which is neither an ornament nor a

convenience, cannot fail to rouse the risibility of the dullest individual. One is tempted to suggest to the estimable press agent that his suggestion would be taken more seriously if he were to alter it to "Write Columbus 8200," or "Telegraph Columbus 8200," but "Call!" At last the obscure origin of a famous phrase is cleared. "Many are called but few—" The author must have had a prophetic vision of the telephone companies of today.

These lines are being written in a country retreat far from the agony of that modern instrument of torture. It is only in such a place that one can write of it without bitter comment on the tragedy of that abominable invention. Many a time has the writer, seated at his desk in a stuffy little office, held the transmitter with one hand and kept count of his heartbeats with the other, counting them off as they mounted and trying to make up his mind if, unless he got his number soon, he would need the services of a doctor or an undertaker. *O tempora! O Mores!* Time was when a citizen of this great country could heap contempt and pity on the users of telephones in barbaric England and France, boasting of an excellent American service which yielded the number called almost before it had been uttered. Traveling abroad in those days had its advantages, if only in the opportunity it gave for establishing the superiority of things American. But today! The telephone service in Paris, always considered the worst in the world, is three times as fast and satisfactory as it is in New York. Once a country cousin would fill you with pride in your city by marveling at the speed of the operator's response, at her politeness. Now he makes you squirm by telling you how much speedier and more polite the service on his farm is. Summing up the whole situation, one may establish this rule: a number called by a man is often received by his widow.

We recommend these irreverent reflections to Dr. Royal S. Copeland. He may find an idle moment in which to peruse them, but it is hardly likely that he will read beyond the first few lines. The problem of the telephone service is much too serious, in his view, for jest. As Commissioner of Health he sees in the delays, the vexations and the danger of infection a menace to the public health which calls for his most earnest efforts to bring about an immediate im-

provement. He sees the danger of the ill-ventilated booth, the germ-carrying mouth-piece, the menace to the health of individuals with high blood pressure or weak hearts; and, above all, he is uneasy over the fact that the delay in putting thru calls for doctors or nurses may have the most serious results. Both the Fire Department and the Police Department have ample cause for uneasiness on the same grounds. Only a few months ago responsibility for three deaths at a fire was laid at the door of the telephone service, several witnesses declaring that inability to get a prompt connection delayed the response of the Fire Department long enough to bring about the fatalities. Whether this charge was true or not, the telephone companies cannot afford to permit such charges to recur. Certainly the authorities cannot permit it. It is obviously to the benefit of telephone owners and telephone users alike to remedy such a bad state of affairs.

Morality and the Police.—While certain members of the Police Department of New York City were busily engaged defending themselves against the charge that they were encouraging immorality in the city and drawing revenue from numerous ladies maintaining houses of ill-fame, one member of that department took up the heavy burden of his colleagues and set about proving that a policeman may be the very soul of morality. This officer, whose tastes were chiefly literary, invaded the offices of Boni and Liveright, publishers, and confiscated all copies of a book entitled "The Story of a Lover," the authorship of which is known only to the publishers and a few friends. This book was published last year and was reviewed by the literary critics of the country, not one of whom, within the knowledge of the present writer, suspected its immorality. The officer who made the raid, evidently having read the book preliminary to coming to a judgment, regarded it as indecent and dangerous and promptly took measures to protect the innocent public. The book is the story of the love life of a sincere, idealistic, restless married man whose infidelities are chiefly of an intellectual and spiritual nature. Critics differed as to whether it is a good or bad book, judging it from a literary point of view, but few

could deny that it was an interesting, thoughtful, well-considered effort, worthy of a place on any carefully chosen shelf of books. But, of course, opinions differ, and the officer who confiscated the volumes had an opinion of his own. Yet it comes as a shock to many that a member of a department which has again and again been under fire because of its dubious activities should take it upon himself to dictate the reading of the largest community in the country. A policeman's education in a free country may be as good as any man's, but it has never been assumed that his education in the classics was that of a scholar. Of course, one member of the department won laurels on several occasions in classic sports, at the Olympic games and elsewhere, but that, we presume, is the nearest one of that calling ever arrived at classic distinction. The whole incident of the raid is too grotesque to deserve serious comment. One can only wonder what would happen if William Dean Howells walked into a fire-house, made a cursory examination of the equipment, and decided to confiscate the hook-and-ladder as faulty and dangerous to the community. Yet Mr. Howells is probably better equipped to judge the merits of a hook-and-ladder than Officer Galahad is to judge a book like "The Story of a Lover." We are not sure that the censorship of art and literature is a wholly bad thing. There is much to be said in its favor. But it is regrettable that this power of censorship should be put in the hands of those least competent to decide what is good and what is bad in art. Oscar Wilde once said that there are only two kinds of books: those that are well written and those that are badly written. Even at his trial he maintained this view. Asked whether a certain article in a magazine was immoral, he responded: "It's much worse. It's badly done." We do not venture that far, but it is only just to expect that, if there is to be any curb put upon the expression of talent in art and literature, it should be done by those who will not smother the genius that kindles so slowly, who are competent to decide whether an artistic novel is immoral or whether an immoral novel is artistic and whether it will do more harm to suppress a book than to allow it to be sold. An unintelligent censorship defeats its own purpose, and as often as not gives life to a work

which, left to survive on its merit, perishes soon enough.

Community Health Centers.—At the recent convention of the American Association for the Advancement of Science it was urged that community health centers be established thruout the country to promote physical health and efficiency thru organized community effort. What will come of this splendid suggestion, it is easy to predict—it will go the way of so many efforts to rouse the human family to an intelligent conservation of its energy and wellbeing. The human race still remains the last of God's creatures to submit to the progress of science. Animals of even an unimportant significance are brought into the world under conditions and rules that guarantee the production only of the fittest and most efficient. Hogs, cows, horses, dogs, even bees are bred nowadays according to the latest laws of scientific discovery. Flowers and trees are cultivated under the eye of vigilant scientists. Humans alone are permitted to come into the world and grow up without guidance and are thrown into the seething struggle for existence to survive or succumb according to the rules of accident. The weak and the strong are permitted to lie down together, and if only the strong arise the community sheds a crocodile tear and consoles itself with the thought that that is the way of life. It is appalling what a compound of indifference and ignorance the whole history of the progress of the human family is. Compare the care that is given to the breeding and the keeping of live stock on a farm with the indifference with which a group of humans in a shop or a factory is regarded. When will it become apparent to the human family that human energy and wellbeing are the greatest assets the world possesses, that this energy and wellbeing can be submitted to the same rules and scientific treatment that is accorded animals for the improvement of the species?

The recommendation of the St. Louis convention is a timely one. The late war has taken off millions of able-bodied, producing members of society, and there is a dearth of producers thruout the world. It will be a long time before populations reestablish themselves. Meanwhile there

is an urgent necessity to restore production to its pre-war level, and this can be done only by increasing the productivity of the individual. And this productivity can be increased only by compelling the individual or persuading him to submit to rules of living, of eating, of work and recreation, which have proved of such great value in the improvement of animal types. Thus, as the convention pointed out, it is a fallacy to think that, by increasing a man's working hours from eight to ten, you increase his productivity by 25%. That is a blundering, amateur, ignorant deduction which seems mathematically convincing, but which is absolutely misleading. Impossible as it may seem, it is more true to say that you can increase a man's productivity by 25% if you decrease his working hours by that percentage. The law of fatigue controls this seeming phenomenon, and until employers realize this, productivity will blunder along without coming to a solution. Then, again, the working energy of an individual depends on his living environment, his food, his recreation. These are left to his own invention and nine times out of ten they militate against a high productiveness. The object of community health centers would be to study these problems, to determine which living conditions, which types of recreation, what sort of food will promote productive energy as well as individual health. They will devote themselves to a study of working conditions and establish by scientific methods the number of hours in the work-day which would achieve the highest production with the minimum of tax on the health of the worker. They would study the science of recreation and determine the types of recreation which will relieve the strain of a hard day's work and yet allow the worker to recover his spent energies instead of placing an added strain on them. These findings will vary in each community, according to the type of individual living there, the nature of his activity; and, taking them together, it will, perhaps, be possible to work out a scheme of human advancement along health and industrial lines which will serve human beings as science has served the advancement of animal types. The deliberations of the St. Louis convention are recommended to all employers and all those interested in the advancement of the race along sane, sensible, scientific lines.



ORIGINAL ARTICLES

EMPEDOCLES THE PRIMITIVE PHYSIOLOGIST.

BY

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The attempt of primitive man to understand the manner in which any object in his environment influences him is an essential part of his pantheism. A far-extended category of superstitions and actions, inexplicable to us, is the result of this mental activity. There is no discrimination of organic and inorganic, of animate or inanimate for him. It is all animated, it is all instinct with life. How the fetich he wears pours into him, into his enemy or his friend that spirit or power whereby he, the self-centered being he is, may be influenced, is unknown to him. Curiosity as to the "how" of it lies at the back of his brain nevertheless. Curiosity as to the how of it is still with us. Primitive man is more continuously unconscious of this pressing mystery than we are. He thinks he sees success in the chase or in the battle resulting from the wearing of his talisman, but it may just as little enter into his thought how the result is brought about as it occurs to us how the ethereal vibrations we call light are interpreted thru the retinal rods and cones and the optic chiasm, to our own consciousness.

We are as ignorant as he, and like him, we do not know how absolutely ignorant we are of the fundamental basis of our relationship to our environment.

The realization of this is necessary for an intelligent discussion of the phenomena of the senses. In the historical aspect of the subject it comes naturally to the surface. There can be no doubt that so far as savage man ever gives it a thought he takes the view that something passes from the fetich, the tree or the stone or the witch into its owner or his neighbor. I have read somewhere in ethnologic literature of the wild Australian medicine man sitting down to the windward of his patient that some emanations of his own superior bodily powers may blow into him. In one of the Platonic dialogues, Socrates gives expression to the same order of thought prevailing among the common people of his day. I have given this matter greater expansion elsewhere.¹

When we reach back to a period somewhat older than that of Socrates, we get almost our first record of the thought of man that the universe in order to be understood must be resolved into its elements. As a corollary to this it was soon seen that matter is divisible infinitely. The atoms of Leucippus and Democritus—the ultimate division of matter was a necessity for the advance of cosmic analysis. This realiza-

tion of advancing thought was at once grafted on the primitive idea of emanations. Alcmaeon and Empedocles conceived of minute particles (*Ἀπόρροιαι*) and pores. These men were contemporaries and each perhaps gave greater development to a conception evidently much older than any of them. The particles of Empedocles may not have been just what Democritus meant by his atoms, but they sprang from the same central thought germinating in the wondrous fecundity of the Greek mind.

Not only are these considerations necessary in developing the doctrines of Empedocles as to the senses, but one must also take some account of his doctrine of the similars. The doctrine of homeopathy is the grayest of all the thoughts of modern men. It is essentially primitive magic. Empedocles was the first homeopathist of science. He introduced nearly 2,500 years ago the science of the primitive mind to the budding science of Greek philosophy. Rather it is more correct to say he formulated first in records which have come down to us that underlying thought of the cave-man, that like attracts like, *similia similibus curantur*. It was hoary with age when Empedocles was born (470 B. C.?). With these introductory remarks on homeopathic magic, emanations of the fetich man and the product of the dawning method of scientific analyses, the infinite divisibility of matter, we may approach more closely to some of the ideas Empedocles expanded in medical science. As I have pointed out² he was the living symbol of the link between the old and the new, between primitive man and scientific man.

All bodies are made up of pores and emanations or particles of different size, shape and weight which fit into them. Those particles of one size, shape and

weight attract others of that kind from the environment to themselves. They severally can only enter in where the passage is fitted to receive them. It is by virtue of this assimilation of like to like that perceptions of the senses are revealed to consciousness—only the latter term of the proposition had not then received its modern definition in etymology—for in fact we know no more now what the word means than if we had not invented it. Emanations from the object we perceive enter, as above described, the organ of perception, which is supplied with pores suitable to receive the specific particles of vision cognition.³ The neatness of this conception, its simplicity appealed, doubtless, with such force to the ancient mind that Empedocles was not discouraged when he attempted to drag the facts, accessible even then, into accord with it. Empedocles, as has been said, was not only a scientist, but a primitive man and by virtue of that, a poet. The quotation, frequently made, of the fragment of his archaic verse, as given in the rendering of Sydenham, referring to the structure and function of the eye, I take from Taylor's translation of Aristotle.⁴ Tho it says nothing of the pores of the eye, nor of the emanations from the object, it is so felicitous I give it in full:

"As when the trav'ler in dark winter's night,
Intent on journey kindles up a light,
The moon-like splendour of an oil-fed
flame,

Calm and serene there sits the tender form,
Screen'd from rough winds, and from the
wintry storm.

In vain rude airs assault the gentle fire;
Their forces break, disperse, and they retire.
Fences secure, tho' thin, the fair enclose;
And her bright head she lifts amid her foes.
Thro' the straight pores of the transparent
horn,
She shoots her radiance, mild as early morn.

Forth fly the rays, their shining path extends,
Till lost in the wide air, their less'ning lustre ends.

So when the fire fresh lighted from on high,
Sits in the circling pupil of an eye;
O'er it, transparent veils of fabric fine,
Spread the thin membrane, and defend the shrine;

The subtle flame enclosing like a mound;
Safe from the flood of humours flowing round.

Forth fly the rays, and their bright paths extend,
Till, in the wide air lost, their lustres end."

Alcmæon, who has a rather mysterious reputation for a knowledge of anatomy, may have furnished Empedocles, who is said to have been his pupil, with such knowledge as he exhibits elsewhere of the structure of the eye, but the fire seen in the pupil of the eye surrounded by membrane could be seen in the dark orb of any Sicilian maid standing by a hearth of blazing fagots. The eye was formed of the elements—earth, fire, water. "Of these elements divine Aphrodite made up the fabric of the eye." If Diels or any other industrious philologist desires to see in the terms of the original Greek a reference to the lens of the eye or even to its capsule, there are few of us who will venture to make a display of the skepticism we feel. We have the doubtful authority of Plutarch for believing that Empedocles applied his scheme of sense perception to the eye. Color he thought, "consentaneous to the passages of the eye."⁵ Plato, too, refers in such a way to the matter in the *Meno* (76) that we can scarcely doubt that he applied his theory to vision. So also does Aetius.⁷ In the lines quoted in the translation of Sydenham, however, we see the rays going out from the eye, evidently emanations consisting of particles going towards or even to

the object. What becomes of the emanations of the object toward the eye does not appear. The weakness of the theory made fine sport for Aristotle⁴ and Theophrastus,⁶ but since all objects give off emanations so must the eye itself, and such ones, supposedly as it receives, since like attracts like. One of the things that troubled the early inventors of the laryngoscope was the thought that it would be necessary to supply a separate pathway not alone for rays from the source of illumination to the larynx, but for rays also from the larynx to the eye.

Aetius makes the statement supported by the previous testimony of Aristotle, Theophrastus and Plutarch that Empedocles' general theory was that "sensations arise part by part, according to the symmetry of the pores, each particular organ of sense being adopted to some sense." Aetius, as well as Plutarch, also refers to color perception as brought by Empedocles under the same law. There does not seem any good reason then for even the small doubt Beare³ expresses in the matter. The idea is so confused that, tho the facts of anatomy known to the ancients were so few, one is naturally skeptical that it was possible for the human mind to take such a twist. Taste, Theophrastus says, Empedocles does not mention. Touch would seem to be still less amenable to the doctrine. Theophrastus declared Empedocles looked upon the failure of organs of special sense to respond to the stimulus of other particles entering the pores as explicable on the supposition of their going thru without touching. This warrants the inference, drawn by Beare, that the conception of all the senses was based on the idea of contact or touch. Presumably particles too big to enter might naturally occur to anyone and there was a reason, too, for under-

standing why particles produced no effect when beating against orifices. As to hearing, a number of reporters besides Aetius assert that it was due, in the meaning of Empedocles, to "the impact of wind on the cartilage of the ear, which, he says, is hung up inside of the ear so as to swing and be struck after the manner of a bell." Beare asks in scorn, "By what do we hear the gong itself when it rings?" Now we are not seeking for absurdities in explanations, which do not explain. If we were we might easily find them in the chapter on the senses in any modern physiology. How indeed do the air waves communicated to fluids within the ear make us hear? Or their improper guidance make us dizzy? What is interesting for us is that Empedocles, whom we find credited with the actual experimental demonstration of the materialistic nature of air, conceived also of the waves in it. This, which modern science has rendered more assured, is one of the links in nature's method of conveying sound to the consciousness of sentient beings. We know of other links, but we see Empedocles thus far correct and no more absurd than many a modern physiologist. Besides the experiment of the water clock, records show that Alcmaeon, the reputed teacher of Empedocles, had learned a number of facts about the anatomy of the middle and internal ear either by dissection or by a study of the dry bone. Anybody ancient or modern can know of the cochlear windings of the external ear; the destruction of them, so frequent in the ancient pugilist, could easily have been observed by anyone not to produce deafness. We may suspect then that the "gong" within the ear was the tympanum or the ossicle or some of the internal structure, tho this cannot be asserted with positiveness, so far

as the records at present available have been analyzed.

So far then as these allow us, we observe that in a theory, more or less founded on concepts of the cosmos prevalent in our day, atomism, we get a theory, something like in the symbols to Ehrlich's immunity theory, for the mechanism of sense cognition. The mere beginnings of anatomical knowledge of one of the sense organs, the most elementary of experiments on the air, we see guided Empedocles into the right path as to hearing. So strong was the influence of theoretical considerations as to the atomic division of matter, that we find him applying it to other sense processes in a manner grossly at variance with facts as to the eye, and manifestly devoid of support from facts then known as to taste and touch. As to smell, Empedocles recognized its association with respiration, and we can scarcely doubt that in his thought particles floated in the air current towards some organ then unknown and this so far as it goes is in accord with modern theory. Modern theory, however, finds no support for the idea that these sense particles of smell find the pores for their entrance in the lungs.

Aetius quotes Empedocles as saying, "Smell is introduced with breathings into the lungs," but we may hesitate to believe that he did not associate the nasal chambers with the sense of smell. Alcmaeon had an idea of hearing still more suggestive of the modern view. The air in the outer ear is set in motion and in its turn transmits the impulse to the inner chambers which is thence carried to the brain. Our knowledge of Empedocles' views as to the seat of the soul, we get chiefly from Aristotle, who partook of them. They believed the soul or the intellect, the consciousness we are

tempted to say, resides in the blood, especially that of the heart. This view may have halted Empedocles' acceptance of Alcmaeon's saner instinct as to the path of the sense of hearing to the brain. We may likewise suppose that this idea of the soul in the blood near the heart referred the sense of smell to the lungs, in our view so strange. Diocles, according to Wellmann,⁸ seems to have attempted to reconcile these diverging views of the founders of the Sicilian School of Medicine. He looked upon the blood of the head as the seat of intellect. Empedocles' ideas as to the organs of special sense, thus misled by his ideas as to the seat of the soul, do not seem to have produced a very profound influence on the subsequent course of medical science. They excited the interest of Plutarch and his circle of dilettante philosophers five or six hundred years later, but until we reach Aetius (4th or 5th century, A. D.) we do not perceive in medical authors much mention of them in spite of the interest they excited in Aristotle, who seems to have been much influenced by them, as was Plato to a less degree, and in spite of the vivacity with which Theophrastus attacked them.

Tho this may be remarked as to Empedocles' physiology of sense, they are profoundly interesting to the student of the origin and progress of medical thought, since they are not only the first recorded formulation of belief in regard to the functions of special sense, but they exemplify in their glaring crudities and insufficiencies the blighting influence of theory in the face of the obvious, disregarding the force of experiment and observation. If they were of little influence on subsequent medical history, however, is was not due to these weaknesses nor to the lack of talent and mental fecundity in Empedocles, for his theories

on generation in animals, on similars and on respiration and digestion had far-reaching effects upon it. Subsequently helped, I presume, by Aristotle's tautological nonsense in regard to the entelechy, we may find in Galen particles from the digestion of food taken up by the blood because the similar particles in the latter attract it. So the male semen finds its way to the uterus, so the phlegm is carried from the lungs by the blood to the head because, in the thought of Galen, the brain is like it not only in being cold, but in its physical constitution. For Aristotle there was no escape from this sort of thing but in the assumption of an innate power of attraction whether by similars or not. Profoundest of all the influences exerted by Empedocles on subsequent thought was his development of the already existent germs of the humoral doctrine. It not only manifestly influenced the more judicious mind of Hippocrates, but it started Galen on a career of humoral propaganda which dominated medicine for much more than a thousand years.

Instead of accepting the monovalent doctrine of the Nature Philosopher who severally thought of water or air or fire or earth as the primordial element, Empedocles made a polyvalent system of it by adopting them all. To match the elements numerically he added the qualities, the hot and the cold, the moist and the dry, without stopping to ask as Erasistratus did—why not the rough and the smooth? Or as Hippocrates—why not the sour and the sweet? "These elements are equal, all of them, and of like ancient race; and one holds one office and another another and each has his own nature"—some being predominantly warm, others cold. They were coeval and eternal—for if they perish whither should they go? (Fragment 87.) "From these

arose blood and various kinds of flesh" (203), "and if your faith be at all lacking in regard to these (elements), how from water and earth and air and sun (fire) when they are mixed arose such colors and forms of mortal things," the attraction and repulsion of modern physical chemistry, symbolized under the conception of love and hate accomplished it, a simile carried out in the meaning of Empedocles by Goethe in his wonderful novel (*Die Wahlverwandtschaften*—*Elective Affinities*). Combinations of the elements arose under "the uniting power of Aphrodite" (210). He seems to have thrown much, if not all, of his written work into the form of poetry and his other physical ideas as well, are full of poetical conceptions even in the reports and traditions of later writers.⁹ So Goethe made poetry of the *Metamorphosis of Animals and Plants*. Empedocles says,

"When strife has reached the very bottom of the seething mass, and love assumes her station in the center of the ball, then everything begins to come together, and to form one whole—not instantaneously, but different substances come forth, according to a steady process of development. Now, when these elements are mingling, countless kinds of things issue from their union. Much, however, remains unmixed, in opposition to the mingling elements, and these malignant strife still holds within his grasp. For he has not yet withdrawn himself altogether to the extremities of the globe; but part of his limbs still remain within its bounds, and part have passed beyond. As strife, however, step by step, retreats, mild and innocent love pursues him with her force divine; things which had been immortal instantly assume mortality; the simple elements become confused by interchange of influence. When these are mingled, then the countless kinds of mortal beings issue forth, furnished with every sort of form—a sight of wonder."

The colors were four in number, the

white, black, red, yellow and in the humoral theory the humors of the body became four in number also, blood, phlegm, yellow bile, black bile. In the oriental hymns, the Persian *Zend Avesta* or the Hindu *Atharva Veda* and perhaps in the *Rig Veda*, if I remember correctly without looking the matter up, we do not get this splitting of the bile in two. With elements, qualities, colors, humors, each four in number, there seems a striving after a tetralogy which can be referred only to Egyptian influence. The recurrence of the number four, derivable perhaps from their geometrical science, may be noted not alone in the parallelopipedons of their architecture, but in the prescriptions of the *Papyrus Ebers*, and especially in their weights and measures, whence our own are derived.

Empedocles was the first evolutionist and tho this, as he thought, fitted in with his general scheme of generation that belongs more properly to the history of philosophy proper and I cannot take it up here. Later when anatomy, if not physiology had advanced further, we find the ovaries described in the sense of female testicles and this evidently arose from the idea probably older than Empedocles that the female also contributes semen to the formation of the fetus, which is correct enough if we divest ourselves of the association of the female cell with the egg of a bird and keep in our mind it is the cell in the seminal fluid which is the essential part of it. All we have to do to get into line with ancient thought is to divest ourselves of the modern etymology which oppresses us, and no violence is done to thought by accepting the ovary as the female testicle. This conception does not itself specifically occur among the fragments left to us from Empedocles, but it is neces-

sary to put ourselves in a proper mental attitude if we follow the subsequent history of medical thought as it relates to the problems, anatomical and physiological, of generation. Likewise, unless we also have in mind the primitive and the oriental idea of the superiority of the male and that the Egyptian remedy, found also among the Greeks, for most evils was the milk of a woman who had borne, not a female, but a male child, we will also meet with dark passages in that part of early medical history. Some reason had to be given to explain why it was males were so superior in the days, some two thousand years and more before the parliaments of the world gave birth to suffrage bills.

There was no glimmer of the dawn to disturb the acceptance of this view even in the days of Aetius and he had no thought of the necessity for him to stop to explain them when he declared that Empedocles taught, "Males or females are born according to warmth and coldness; whence he records that the first males were born to the east and south from the earth, and the females to the north." Evidently these brown Mediterraneans of Sicily believed *ex oriente lux*, all excellence comes, like their ancestors from the east and south. Those who doubted that general law, saw no pressing reason to believe that males were first born in those regions. "Monstrosities are due to too much or too little seed, or to disturbances of motion, or to division into several parts, or to bending aside. Twins and triplets are due to excess of seed and division of it. Likeliesses (of children to parents) are due to the power of the fruitful seed, and differences occur when the warmth in the seed is dissipated. Offsprings are formed according to the fancy of the woman at the time of conception; for oftentimes

women fall in love with images and statues and bring forth offspring like these." In the *Elective Affinities* Goethe finds this explanation for the resemblance of the child of chaste and respectable parents, each of whom was secretly infatuated with another. Empedocles drew still further on his own imagination for a reason for the sterility of mules, "the womb is small and narrow and attached to the belly in a reverse manner, so that the seed does not go into it straight, nor would it receive the seed even if it should reach it." I think it is not difficult here to see how primitive is the whole thought, how hoary with age is the idea of maternal impressions, how vague and void of critical analysis, how mechanical is the first materialistic offspring from the man of magic. "As to the growth of the fetus in the uterus, Empedocles held that its formation began on the 36th day and was completed on the 49th." This fragment (68) as translated by Burnet we find a little different in Galen¹²—*perfici vero partibus unde quinquagesimo die*—Kühn's Latin translation runs—partly completed on the 51st day. I judge Galen was attempting to extenuate the gross error, if he had the same text before him, but we may well doubt the exact authenticity of any reference to a text so ancient that the language was archaic in the time of Aristotle, who gives, still more dubiously, some further account of the views of Empedocles on generation.^{4b}

These views of Empedocles on generation probably were not essentially different from those held by medical men and philosophers in his day, but they are interesting to us because of the glimpse they give us of their manner of thought. His ideas on respiration, however, are known to us more in detail. Connected as they are with his

experiments on air and the vacuum they involve physiologic views that evidently mark an advance if not the very beginnings of a rational scheme for the mechanism of the respiration and the circulation of the blood. I do not understand how Burnet^{11a} derives the impression from the fragments we have that he believed respiration to depend on the systole and diastole of the heart. It cannot be assumed that the discrepancy between heart beat and the respiratory movements was any less well marked or much less accessible to observation than now. Influenced doubtless not only by his experimental work, but also by his cogitations as to particles and pores we find him extending the channels of respiration not only to the blood vessels, but thru the flesh and skin to the outer air. In the edition of Aristotle I have used, there is a footnote to the chapter on respiration as translated by Taylor^{4a} which more fully explains to the modern reader Aristotle's obscure references. I know of no other scholium, ancient or modern, so good. It is impossible to abbreviate it and, therefore, I transcribe it here, instead of using the translation of Aristotle's text.

"Empedocles supposes three things, with respect to the mode and cause of respiration. The first is, that the arterial veins, tho they contain blood, yet are not so full of blood as not to include within themselves a considerable quantity of air. In the second place, he supposes that the same veins have certain pores less than the sanguinous corpuscles, but larger than the aerial corpuscles and, therefore, of such a kind that the blood cannot flow out of them, but the air, which is more subtle than blood, may thru such pores have an alternate efflux and influx. In the third place, he supposes that the blood within the veins has such a nature as to have a perpetual flux and reflux upward and downward. These things being supposed, Empedocles thought, that when the blood flows downward thru the arterial

veins, then there is an influx of the air thru the mouth into such veins, in order to fill the vacuum, in the place of the flowing blood; but the air, which was in the inferior part of the veins, departs thru the pores, and thus gives place to the descending blood. But when there is a reflux of the blood upward, then by expiration the air goes out of the mouth, that it may give place to the blood ascending to the superior part of the veins, and from the inferior part of the same veins the air enters thru the pores, in order to fill the vacuum in the place of the ascending blood. Empedocles explains this by the example of the clepsydra, an instrument which has in the upper part a large hole, and in the lower part many small holes. If, therefore, this instrument is filled with water, and the upper hole is closed with the finger, the water will not go out of the lower holes, because the air cannot enter from the upper hole, in order to fill the vacuum in the place of the departing water. But when the upper hole is opened, then the air entering, the water flows downward, and departs thru the inferior holes. In like manner when the air enters thru the mouth, the blood flows downward; but when there is a reflux of the blood upward, the air departs thru the mouth."

This conception can be found in most medical references to respiration until the time of Harvey, if not in its entirety, but little modified by the subsequent enormous additions to anatomy. It is curious to see how Empedocles was led as much astray by his experimental work as by pure theory. It is instructive to observe how all the advance of the Alexandrians in anatomy and all the surgery from Celsus to Paré failed to convince most medical men that the arteries held blood, not air alone.

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TYPES OF TREMOR IN WARFARE.

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First I wish to call attention to four cases of the form of trembling which Logre has described under the name of *hystero-emotional tremblings* and which appeared at once after an emotional shock, excited by the near bursting of big shells. Three of them had been thrown down by the explosion, but none had fainted. Three of them were constitutional emotives and the shock had brought their fear of shells to its maximum; while the fourth, a mental weakling, had become extremely sensitive since a traumatic shock and started at the slightest noise.

In the four cases the onset of the trembling had taken place a few seconds after the explosion and in one of these cases there had been at that moment a paroxysm, with

chattering of the teeth like in a malarial attack, a real emotive crisis manifested by trembling.

These four cases were sent into the service less than six days after the traumatism and happily were all cured in less than one week.

The trembling was diffuse, more accentuated in the standing position and during an effort. It was diminished by amusement or fatigue and entirely disappeared during sleep. Great diffuse reflex vivacity lasted after the trembling ceased.

The treatment consisted of keeping the patient in bed, giving him milk, purgation and later a bromide (2 grams per day).

The psychotherapeutic treatment consisted of reassuring the patient in asking for his help; in realizing that he must not be sent back to the rear, but must be cured quickly; in giving him hope of being sent on leave if he recovers promptly; punctures in the lumbar region had to be made occasionally if the perturbation persisted.

An interesting detail was that trembling reappeared in the case of the mental weakling consecutively to each air bombing and disappeared again rapidly.

No neurologic or cephalo-rachidic stigmata noticeable. All of these cases returned to the front after leave or convalescence from fifteen to twenty-five days.

Commotional Trembling.—Two other cases have been observed and have proved to be commotional trembling.

The patients had been thrown down by the bursting of a big shell and had fainted, the swoon lasting a certain length of time (symptomatic consequences: headache, giddiness, fatigue, emotivity, cephalo-rachidic stigmata, albuminosis, from 0.50 to 0.70, abnormal voltaic vertigo, perturbations of reflectivity, etc.).

The trembling was chiefly unilateral, towards the right in one case and towards the left for the other, with reflex vivacity more accentuated on the same side. Apart from this neurologic picture, the aspect of this trembling and of its variations resembled that of the hystero-emotional tremblings; it increased in the standing position, it was also increased by emotion, effort, etc., and disappeared during sleep.

Altho the same treatment was applied, these patients recovered very slowly (two or three weeks), the improvement was gradual and ran parallel to the regression of the neurologic and rachidic symptoms.

A spontaneous tendency to recovery made it desirable to give up all other treatment but rest and tonic medication (cacodylate of soda without strychnine, attentive survey of the digestion, substantial food, tepid tub and shower baths and medication to overcome the sleeplessness).

Convalescence required from forty-five days to two months.

It is necessary to call these cases to the attention of the doctor belonging to the corps they will join.

Familial Trembling.—This is a case of general trembling which came on without a commotion or emotional episode. The patient is 43 years old and alcoholic. This case is that of a familial trembling. The patient's father had suffered trembling since the age of 50. This man being influenced very little if at all by treatment, he was recommended for discharge.

Hystero-emotive Trembling.—This case is one of general trembling, the onset of which was not due to an emotional or commotional episode. The patient was an emotive neuropath with tic, who had had nervous attacks of a pithiatic form. He had witnessed trembling in some of his

comrades after a commotion and his trembling had begun the day after he had a pithiatic attack.

This trembling is *hystero-emotive*, diffuse, influenced thru the attention; it is suppressed by sleep, etc. The reflex vivacity is extreme without any sign of organicity or of rachidic stigmata.

The recovery of this case was very difficult to obtain altho the onset of the perturbation was quite recent. Staying in bed, use of bromide and application of hydrotherapy were of no avail. Psychotherapy under the form of persuasion or intimidation failed completely, while an attempt at electrification rather increased the trembling.

The perturbation stopped suddenly after an injection of hyoscine hydrochlor ($\frac{1}{2}$ a milligramme), but this was perhaps only a coincidence. The patient was, anxious about what was going on in his family and the day before his trembling ceased he had received satisfying news.

The reflex vivacity persisted and simulation seemed next to impossible. He was sent on leave and later went back to his corps.

On the whole one may admit three kinds of trembling in war pathology.

(1) *Organic tremblings* which are recognizable by their signs of organicity (signs of hemiplegia, paraplegia, cephalo-rachidic stigmata, indications of an organic cause. These are often wholly or mainly unilateral and are accompanied by hypo-reflectivity with a tendency to clonus. Sleep does not suppress them and they are not appreciably modified by psychic influences. Treatment must be applied to the causes of the morbidity).

(2) *Physiologic trembling, or physiopathic*, that have no sign of organicity, but

present objective signs that the will is incapable of reproducing (as in emotive states for instance).

This physiologic trembling is connected chiefly with pathology of emotions. It chiefly afflicts constitutional emotives who always have been emotives and who have already noticed their readiness to tremble.

These emotives have mostly been observed to tremble after an emotional episode that may or may not be connected with a commotion.

The trembling of these individuals indicates their habitu-emotivity and their recent emotion. Sometimes even they present after the emotion a real emotive attack of trembling like in one of the cases mentioned above.

From a clinical point of view the trembling of these patients is an emotive trembling accompanied by the particular symptoms of emotivity (quick reflex, disturbances of secretions and circulation, respiratory spasm).

These physiologic elements may be complicated by an organic state, organo-physiologic association or by hysteric reactions (hystero-physiologic associations).

This sort of trembling, like emotive phenomena is suppressed by sleep. It is influenced by psychotherapy but more so by the intervening of emotion or sentiment than by real suggestion.

Torpillage is not as a rule profitable to these emotives, so easily made anxious.

Recovery is slow and gradual, altho the importance of the psychic element is great. These perturbations tend to be tenacious more so than hysteric perturbations. In the course of time and with the help of habit, these tremblings may get to be irreducible and may remain as a sort of tic very difficult to remove.

(3) *Hysteric trembling* is rarely uncomplicated, frequent if one considers associated pithiatism.

Associations: { Hystero-organic.
 { Hystero-emotive.

This form is attended by reactions without organic signs and without objective signs which will is incapable of reproducing. Variability under psychic influence and under various forms of suggestion such as electricity are some of the distinctive characteristics of hysteric trembling. This trembling often disappears suddenly and completely.

It is difficult to differentiate it from the pseudo form of simulated trembling.

To these three clinical varieties of trembling, there may be added a particular kind due to a more or less complete association of the three.

War trembling is due:

First, either to a slight organic state which can be verified by a neurologic examination or by a puncture in the lumbar region.

Second, or to an emotive state which has developed after a commotion, the result of which is a disequilibrium and can render emotive a man who was not, or after an emotion mostly associated with the commotion itself.

Third, or to a reactive display of hysteria with or without intentional exaggeration (partly simulated).

There are also:

First, trembling like that of Graves' disease which attacks emotive individuals, especially after an emotional episode.

Second, trembling of the Parkinson type noticeable after an emotion and specially a commotion with signs of sub-organicity.

Constitutional motor instability may or may not be accompanied by a permanent

tremor. In any case the trembling usually does not commence before adolescence. It is nearly always accompanied by the dystonic reactions which have been described by Dupré and attributed by him to a dysgenesis of the central nervous system. It is the efferent cerebellar tracts which must be incriminated here. The most conspicuous feature in these patients, however, is not the tremor itself even when present, but the clumsiness and stiffness of movement. These patients are incapable of excelling at even one of the easier trades. Usually, therefore, they are condemned to the lot of the casual laborer. Many of them are also feeble-minded. Such persons in the army are utilizable only as manual laborers, such as trench diggers and porters. They cannot become good combatants because both their reactions and their movements are too slow.

One of the most valuable differential signs as to the nature of a tremor is the reaction of the patient to a commanded movement. It is desirable to utilize for this purpose standardized movements such as placing the heel upon the knee, touching the knee with the point of the forefinger, bringing the two forefingers together, and best of all, the abrupt supination of the hands held in the air before the patient. Of course the power of rapid alternation of pronation and supination of the forearm should be observed in order to estimate the diadokokinesis.

In a trembler of pithiatic type there is no characteristic or consistent modification of these movements even when none of them are properly performed. The trembling may continue, it may even be greatly exaggerated, the patient may jerk backwards and forwards round the point which

he is supposed to be trying to reach. The diadochokinetic movements may not be performed at all; in spite of all of which, the movements of the jaws and tongue may be quite normal; there will be no clumsiness or slowness in the act of sitting, nor in leaning back while upright from the standing position.

Where the cerebellar apparatus is really affected there will be, on the contrary, the characteristic dysmetria—the patient usually going considerably past the point aimed at, and recoiling rapidly, sometimes with several oscillations before he reaches it. When the lesion is unilateral the best functional test is perhaps that of sudden supination of the hands, which will show a difference of angle with the horizontal, the diseased side usually having the greater excursion. The many tests of cerebellar dysfunction are described in the chapter on cerebellar injuries.

In paralysis agitans the supination test is performed only slowly, in such a way that only an exceedingly well-trained simulator can imitate it. If rapidity is evidenced in any of these test movements on the part of tremblers, we may be quite sure that we are not dealing with a case of paralysis agitans. It may be taken as a rule then that any non-vibratile tremor which is not accompanied by abnormal slowness in test movements and does not show dysmetria in these movements cannot be due to organic disease of the nervous system, and we are safe in diagnosing it as pithiatic and treating it accordingly.

To be distinguished from congenital dys-tonia is a constitutional tendency to *tremulous emotional reaction* which has quite different characters. In three generations of the same family, for instance, there is

manifested a peculiar stress reaction showing itself by jerkiness and irregularity of the movements of the hands. In the son and grandson this is accompanied by an explosiveness of the speech also. The grandfather showed a particularly violent shakiness when about to perform a surgical operation, which contrasted most strongly with the steadiness of his hand during the operation itself. This tremor is not accompanied by tachycardia, and does not resemble the fine quivering seen in toxic states. It is due to an overtension which shows itself when a complicated act of a difficult nature is being performed, during which, instead of an easy relaxation of all muscles except those needed to perform the act, there is a general tautening of the parts with a restriction of freedom of movement, such as occurs in the game of golf, when the player "presses," as it is called, which means that instead of the free-and-easy swing which should be given to the club by the muscles held loose, there is an over-anxiety which produces a tautening of the muscles, whereby the freedom of the stroke is interfered with. It is the same tightening of muscles during this kind of emotional state which shows itself in some as a stammering speech and in others as a scrivener's palsy, which may be either of the so-called spastic or of the tremulous type. It is an anxiety state which is responsible for both the induction and the maintenance of this kind of writers' cramp, a very full study of the mechanism of which was published by the present writer in 1912, in which its psychogenetic nature was clearly shown. The whole matter including the treatment is extensively discussed in a forth-coming book "Disorders of the Nervous System in Warfare."

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A NOTED CASE OF LONGEVITY— JOHN SHELL: CENTENARIAN.

BY

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During the past four months there have appeared in the daily press lengthy accounts of John Shell, reputed to be the oldest person in the world. According to these accounts the man was 131 or 132 years old. Early in November I examined Shell in his cabin on Greasy Creek, Leslie County, Ky. The story of the arduous trip thru the "moonshine" country, and how I learned his real age, being subjects of greater interest to the layman will appear in the lay press. In this article I wish to describe his physical and mental condition and such facts concerning his life as may have a medical interest.

John Shell is about one hundred years old, possibly a year younger or older. (U. S. census for 1900 gives his date of birth as May, 1822.) He was born near Knoxville, Tenn., and as a youth he went with his father to southeastern Kentucky where they were hunters and trappers. He married at the age of 22 or 23 and had eleven children by his first wife, the oldest being now nearly 76 years old. The youngest, deceased, would now be 52 years of age. He married his second wife three years ago, a year after the birth of a child of which he is the reputed father.

He is ignorant and illiterate, suffering from the garrulous form of senile dementia, with hallucinations and delusions, readily susceptible to suggestion and his statements, insofar as they relate to figures, dates and periods of time, are utterly unreliable. His reputed age, 131 years, has been so drilled into him by his exploiters, that he insists he

is so old in spite of the most obvious discrepancies and inconsistencies. The real estimate of his age was made from information obtained from various sources, including members of his family and his own admissions and U. S. census reports. There are no records of his birth, baptism or first marriage.

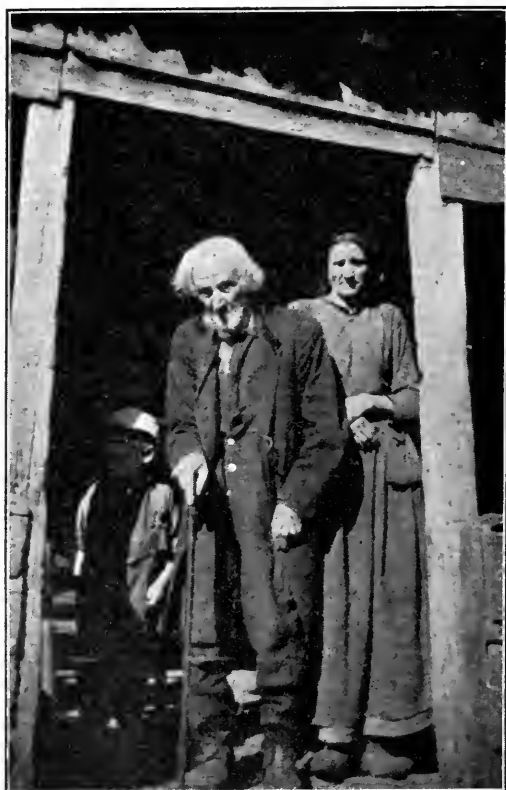


FIG. 1. John Shell, wife and youngest son aged 4½ years.

At the time of my visit he lay huddled up in bed, dressed in shirt and trousers which had probably not been removed in many days. Taken out of bed he gave the appearance of extreme decrepitude and he was unable to stand without his cane. For a few moments, while his picture was taken, he stood fairly erect, but his usual posture when standing was a slouch with

bent knees, marked spinal curvature and head fallen forward. In this position his height was 62 inches. Measured along his legs, spine and head as he would be if standing erect, his height is 66 inches. His weight is 103 pounds. His body is wasted like that of a person in the last stage of tuberculosis. His skin is dry, thin and loose, tanned where exposed, with many pigmented macules on his face, chest and hands. His countenance is ordinarily expressionless, but it was occasionally animated as when relating his hallucinations and when speaking of his unsatisfactory financial dealings with his exploiters. His eyes are gray, bleary, with small pupils and a wide arcus senilis. He claims that he can still see well enough to shoot a squirrel at two hundred yards, but his close vision is defective. Pupillary reaction to light is sluggish. There was a ciliary blepharitis with intensely red borders, and complete loss of eyelashes. He said he has had trouble with his eyes for twenty years, but it has not affected his vision. His nose is large, with wide nostrils. Ears large and hairy. His hearing, he says, has been failing, but it was still fairly acute and when his attention was riveted upon my questions he could hear my low voice at six feet. He lost the tick of a watch as soon as it was removed from his ear. He sat with his mouth open. The tongue was dry, with a slight yellowish fur, and the papillæ were hardly discernible.

There were no teeth in the upper jaw and only two long broken canines and the low, flat stumps of two incisors, in the lower jaw. The head is large, with high cheek bones and a small weazened lower jaw. He has still a mass of white hair and a scraggy long, white beard, but little hair on his chest or hands; pudic hair scanty

and white. The hands are large, with long, thin fingers and long thumbs; feet, large and flat. His chest shows a line of demarkation where the shirt is always open, the exposed space being tanned and the rest of the skin sallow. The xiphoid appendix is calcified and rigid. The respiratory movements were barely observable and I could not detect the impulse of the apex beat by sight, tho it could be felt. The abdomen was retracted and there was an absence of the ordinary tympanitic resonance upon percussion. The genitals were small, but he boasted of his virility. The thyroid could not be felt. The lungs were shrunk, no respiratory sounds in the supraclavicular spaces, numerous dry and a few large bubbling râles; respiration, 16 a minute. He says he has a slight cough, but no expectoration, but he probably swallows the sputum. There is apparently a slowly progressive tuberculosis. As he was seated in a low chair in a bent position it was difficult to outline the heart by percussion, but it seemed to be smaller than normal. The heart sounds were regular, sixty per minute, weak and rough, and muffled by diastolic and systolic murmurs over the aortic orifice. A loud blowing murmur could be heard in the sternal notch. The surface vessels generally were prominent owing to the thinness of the skin. The temporal and brachial arteries were tortuous, and the veins everywhere were filled, but there were no varicose veins. The pulse was hard, small, irregular in strength and rhythm, with occasional dropped beats. There was quite an appreciable delay in the pulse beat. Momentary pressure upon one carotid caused pallor on that side of the face, followed by a flush which did not extend to the other side. Blood pressure (Sanborn sphygmomanometer) was 110

m. m. systolic, 65 m. m. diastolic. When the compression by the cuff was complete the arteries of the forearm and hand became rigid for a few seconds, they then collapsed as the surface capillaries became filled. The forearm and hand became red, then purple and when the pressure was released the hands remained purple for nearly a minute.

As the old man would not return to bed it was not possible to make a satisfactory examination of the abdominal organs. The walls were thin and flabby, but I could not feel the lower border of the liver. The lower border of the stomach was on a level with the umbilicus. His appetite is good but owing to the loss of teeth his food consists almost entirely of soft, mushy food, milk and buttermilk. He swallows small pieces of pork, chicken, squirrel or rabbit meat as he cannot chew them, but they produce gastric distress and he now eats meat sparingly. He formerly ate large quantities of meat, shooting small game when he was out of pork. On rare occasions he gorged himself on 'possum. He seldom ate beef, veal, mutton or lamb as these were scarce while pork and small game were plentiful. In vegetables he was limited to the produce of his farm: corn, cabbage, onions, pumpkins, potatoes, sweet potatoes and sometimes beans. That is all he raised on his farm in recent years and probably all that he ever raised, but his children and grandchildren now bring him other food. His beverages consisted of milk and buttermilk, rarely tea or coffee, and a daily dram (a swallow) of corn whiskey before breakfast. He still takes the daily dram.

It was impossible to get reliable information from the old man himself as he has a poor memory, was prone to exaggerate and invent statements and he was very susceptible to suggestion. His second wife is

a dull, ignorant, slatternly woman, apparently a mental defective, whose information was, however, free from the taint of exaggeration and falsehood. She said he had no trouble with his bowels or water, but she did not know if he had a daily stool or not. He said he was sick only once in his life, some sixty years ago when he fell and broke three ribs. This gave him trouble for many years. His wife said he had an attack of influenza last spring, which lasted several days. Later when he described his visual and auditory hallucinations his wife told me he saw and heard the same things during his illness. He never employed a physician, but when he felt sick he or his family collected "yarbs" (herbs) in the mountains which he used as "yarb tea" or "yarb poultices."

The temperature outside was 65 degrees but he felt cold when taken out of bed and he sat before the log fire for half an hour getting warm. Then, standing erect, his head fell forward and it required a conscious effort to stand erect with head up. After standing in this position for a few minutes he became weak and sunk into a slouch. The knee reflexes were sluggish and weak.

Mentally he was a garrulous senile demerit, having hallucinations of sight and hearing, and delusions of grandeur. As soon as he was seated he began to tell about voices he heard that no one else heard, calling out "Holy Roller" and he saw "haints" in the room, at the door and out of doors. Other "haints" called out, "Pot Rack; Pot Rack." He got his gun to shoot one of the "haints" that went out of the window and stood outside laughing at him, but just as he was about to pull the trigger the "haint" disappeared.

He told me that two weeks ago three

men, who said they were "Holy Rollers," came to his house, but he knew that they were devils and he chased them away with his gun. His wife corroborated this incident, but said it occurred last winter while he had influenza. The phantoms of his delirium while suffering from influenza had become permanent hallucinations. His delusions were mostly in regard to his age and events intended to corroborate that age. These he had acquired thru suggestion of the men who exploited him at fairs as "the oldest man in the world." Other delusions dealing with his mental and physical powers were the ordinary delusions of grandeur frequently found in senile dementia. When I asked him how old he was he said 131 years. Asked if he was not older, he said, "Maybe I am 200 years; I don't know." When shown the discrepancies in his statements regarding the ages of his children and himself and wife, he became confused and said he "didn't remember," or else "maybe." According to these statements he must have been married 32 years when the first child was born and his first wife must have been then 53 years old, and 78 years old when the last child was born.

I do not refer here to the 4½ year old boy born to the second wife as there is some doubt as to its paternity. He could see no inconsistency in these statements. Tho barely able to stand, he said he could ride to Hyden and back, a distance of over forty miles, in a day. The trip one way usually takes the greater part of the day as it is made over the worst possible mountain roads, thru woods and streams and places so narrow that two riders cannot pass each other (I made only sixteen miles of this trip in one day). He spoke of his virility, his strength, his ability to shoot a squirrel at 200 yards, etc. He kept bab-

bling all the time. While relating his experiences with the "haints" it was difficult to divert his attention to my questions. When I asked him about his former illnesses he gave a lengthy but disconnected account of his fractured ribs and I found it necessary to divert his attention by applying the cuff of the sphygmomanometer before I could get him to stop talking about the old injury. To test his suggestibility I put these questions: "The first president you voted for was Polk, wasn't he?" He answered, "Yes. I first voted for Polk." A few minutes afterward I said, "You didn't vote for Polk, did you?" "No, I did not vote for Polk." Ten minutes later; "Who was the first president you voted for?" "I don't remember." "Was it Polk?" "Maybe; I don't remember." He could not recall a single date and but very few incidents prior to the fracture of his ribs. He remembered he voted for the new Kentucky constitution while his father voted against it (1850) and "a few years later" he voted for the formation of Leslie County (1877). Periods of time were expressed in ten, twenty, twenty-five, thirty, forty, fifty or sixty years, more recent events in weeks. The twenty-seven years between the two voting incidents were "a few years." The influenza attack of last winter occurred "two or three weeks ago."

It was not possible to obtain from him any reliable information about his early life or mode of living. By suggestion he could be made to say almost anything, but he could really recall very little. His present mode of living furnishes little information that would be of practical value, for he spends most of his time in bed, sleeping at irregular intervals, sometimes dozing or muttering. He eats sparingly, at irregular intervals, only when he is hungry. Whatever

regularity there was in his mode of life was instinctive and not in obedience to the clock.

At the time I saw him he was very decrepit, but it is probable that he was in much better shape mentally and physically, last spring, before he was taken to fairs to be exhibited as the oldest man on earth. In this out-of-the-way corner of Kentucky, where visitors are rare and unwelcome (it is in the heart of the "moonshine" country), life is most primitive, persons grow old and die without seeing more persons than can be found on a city block, and without more excitement than an occasional birth, marriage or death might produce. Take a centenarian accustomed to this quiet, natural, unconventional mode of living and remove him to the city to be gazed at and questioned by thousands, and he will soon break down, mentally and physically. It is only in this way that I can explain the discrepancies between the published statements about him and my findings. I found, however, that many of these statements were gross exaggerations or pure inventions at the time they were made.

I was anxious to know if John Shell had any rules for right living or any fixed habits that might account for his longevity. He had no rules and no fixed habits except the drinking of his morning dram. The early settlers were strong and rugged, and hardened by exposure and privations. Weaklings died young and the vigorous who survived married equally vigorous mates and had vigorous children. John Shell was such a child. He had no education and was brought up in a comparative wilderness, exposed to all the hardships and dangers of frontier life. He married at 22 or 23 and settled down on a bit of farm land on Laurel Creek, three miles from his present

abode. Here he lived a simple, almost animal-like life, tilling his little farm and hunting, trapping and fishing for food. His house, built for two, in time held him, his wife and eleven children, all of whom reached maturity. In his earlier days he seldom wore hat, coat or shoes, followed the natural, animal instincts, eating when hungry and only enough to satisfy hunger, sleeping when sleepy, without regard to the time of day, without ambition or aim in life or care for the morrow. His family increased at fairly regular intervals of two years. His oldest child is between 75 and 76 and the youngest of his eleven children would now be about 52. This life is so different from life in civilized communities at the present time that no conclusions can be formed and no lessons can be learned that would have any bearing upon our present mode of living.

When nearly fifty years old he moved to his present home at the mouth of Laurel Creek where it enters Greasy Creek. This is about midway on the road between Hyden and Harlan and a day's horseback journey from either place. Strangers occasionally stopped at his house and he and his family came in closer contact with the outer world. For a few years he had a store here, keeping in stock such goods as a stranger or a neighbor might need in an emergency. During these years his habits were more regular, but there was little change in his mode of life. He continued to till his farm, hunt and fish, probably made a little "moonshine" on the side, and as his children grew old enough to relieve him from the necessity of scurrying for food he drifted back into his primitive habits. About 1892 he became mentally unbalanced, but his mind cleared up sufficiently five years later to make him an acceptable witness in a land

suit. During the last twenty years his children contributed clothing, of which he used little, and food, tho he still continued to till his small farm and go out occasionally to shoot rabbits, squirrels and other small game. His first wife, who was a year younger than himself, gave evidences of insanity about ten years ago and died in 1915. A dull, ignorant, middle-aged woman, who took care of his wife, gave birth to a son shortly before the wife died and the old man was charged with adultery. Before the case came to trial he married the woman and the three are now living in the cabin alone. (This woman died since this was written.)

There is nothing in the life of John Shell that would account for his longevity, unless it be a rugged constitution, hardened by exposure and privations, and no fixed habits. Most of us lead regular lives, our activities, food, sleep, work, recreations being regulated by the clock. We become creatures of habit and any deviation from the accustomed routine causes some disarrangement either in anatomical structure or functional activity. There is then a temporary or permanent disorder, some temporary or permanent pathologic condition which causes earlier breakdown. Shell was not affected by such changes in climate, food, sleeping time, environment, as he was likely to encounter in his ordinary life. Such an extraordinary event as his removal from his quiet home in the mountains to large cities and fairs, where he was gazed at and questioned by thousands, would naturally break him down. The obvious lesson to be drawn from his life is that a rugged constitution, a natural mode of living, governed by instinct instead of by the clock, and freedom from ambition and care predispose to longevity. It is, however, a use-

less lesson since such a mode of life is well-nigh impossible in civilized communities under present-day conditions. Much of the information concerning John Shell's earlier life and mode of living was obtained from his eldest son, William C. Shell, Henry Chappell, a neighbor who has known him for fifty years, and from others who know the old man or are familiar with the mode of life of the early settlers.

THE TREATMENT OF INFLUENZA IN CHILDREN.¹

BY

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A word as to prophylaxis is allowable. Ordinary measures of protection are well understood and need not be discussed. Bacterial vaccine, especially that prepared by Park for the Department of Health, was widely employed in the epidemic of 1918 without clearly favorable result. This vaccine contained strains of the influenza bacillus only. The tendency at the present time is against the use of bacterins. There is evidence, however, of the value of a mixed vaccine of the Rosenow type as prepared by Squibb and Abbott; this may or may not give protection against influenza, but it is quite certain that it does increase resistance to pneumonia. Recognized pneumonia is the chief factor in mortality. In spite of the large number of deaths reported as due to influenza, it is the best opinion that few die of influenza *per se*—unrecognized pneumonia plays a very large part.

General Measures of Treatment.—Isola-

tion. Absolute rest in bed until three or more days after the case has cleared. This greatly diminishes the likelihood of pneumonia and myocarditis as complications. There must be no halfway measures, such as allowing the patient to go to the bathroom. Fantus,¹ of Chicago, who saw over a thousand cases of influenza in 1918, is well worth quoting: "In every case of pneumonia that I have observed, its occurrence was apparently due to inability, or unwillingness, on the part of the patient, to stay in bed long enough or thoroly enough; or to physiologic handicaps, such as pregnancy, organic heart disease, chronic bronchitis, infancy or old age, or most especially to these two influences combined."

Cardiac weakness, often seen, is due in most cases to the breaking of the bed law; or too early resumption of activities. Convalescence must not be hastened and the patient should be under the physician's eye for a time. It is not improbable that prolonged asthenia, following influenza, is frequently due to unrecognized myocardial insufficiency.

Induction of excessive perspiration at first is desirable; a number of patients have, however, a tendency to continue this condition, partly due, perhaps, to the drugs administered. The night-clothing and bed-clothing must be kept dry to avoid the danger of chilling the body surface. Hydrotherapy, where the temperature has a tendency to hold above 104, is indicated. It should not be, but it is, necessary to say that the sick room should be fully ventilated at all times, without draught—to this the physician should give personal attention. Sunlight is a good medicine—a good disinfectant.

¹ Read before the Brooklyn Pediatric Society, February 25, 1920.

¹ Fantus, Bernard: Clinical Observations on Influenza, *J. A. M. A.* 71,1736 (Nov. 23) 1918.

Elimination.—This is a factor of prime importance. The bowels must be fully opened at once, preferably by divided doses of calomel, followed by a saline. Unless movements are free, a laxative is to be given each night for some days—phenolphthalein is excellent. Induction of free perspiration is to be considered when the case is first seen. Kidney activity is promoted by orders to push water and other fluids. Orangeade, lemonade, diluted grape juice, seltzer or water may be alternated with nourishment—one or the other every hour. Excess fluid aids much in liquifying the bronchial secretion.

Medication.—Aspirin, or other drug of similar action, seems to be of value, relieving the general aching, possibly doing good in other ways. Where cough is troublesome, ipecac is the child's best drug in the first few days. Opiates contained in a cough mixture, check free excretion and increase the tendency to bronchopneumonia. A few grains of potassium bromide with the ipecac, will often control an irritable cough. It is to be remembered that the iodides will liquify tenacious mucus—sodium iodid is perhaps preferable. Syrupy vehicles are apt to disturb the stomach. Water, with a drachm of glycerine in the ounce, is an available vehicle and corrective. Elixir lactated pepsin N. F. is tasty. The routine use of alcohol is of value in most cases, as balancing the circulation and conserving energy. Cardiac stimulants may be indicated in the presence of an unduly rapid or slow pulse, especially with irregularity, intermittency, or both.

As in all infectious diseases, there is a likelihood of the development of otitis media. At the Children's Hospital, Kings County Hospital plant, we saw 317 influenza cases in the epidemic of 1918; of

these, 50, or about 16%, showed this complication. A large measure of protection against otitis is afforded by the instillation of half a dozen drops of a 20% argyrol solution into each nostril every six hours, the patient remaining on the back for ten minutes. This procedure should be continued for several days after defervescence and may lessen the danger of passing infection.

Diet.—In the first day or two, liquids only; later, if there is no gastroenteric disturbance, there may be added, with older children, thin cereals, soft custard, junket, egg-nog, calves' foot jelly and zwieback. Vanilla or lemon ice cream is allowable from the first and is usually attractive to children. French cream is especially nourishing.

Vaccine Therapy.—It may be held that bacterial vaccines, requiring eight to ten days to produce specific antibodies, do not act quickly enough to favorably affect influenza. Roberts and Cary,¹ however, report marked success with intravenous injections of stock vaccines in influenzal pneumonia. The quick results would bear out the theory of the writers that the benefit accrued simply from the injection of foreign bacterial proteins.

In the last few influenza cases seen, I have tried the daily subcutaneous injection of a sensitized bacterin—Influenza Serobacterin Mixed, Mulford. The bacteria contained, thru maceration in a homologous immune serum, presumably produce antibodies in from twenty-four to forty-eight hours. This type of vaccine may be of value from antibody formation as well as from its foreign protein. The cases did well, but are in-

¹ Roberts, Dudley—Cary, Edw. G.: Bacterial Protein Injections in Influenzal Pneumonia; *J. A. M. A.*, 72, 922 (Mar. 29) 1919.

sufficient in number to warrant more than passing comment.

Our armamentarium is well stocked with weapons against many diseases, but lacking in equipment as against influenza. While we await the production of a serum, or other specific treatment, a trial of any rational procedure is to be encouraged. The employment of sensitized bacterins in a very considerable number of cases would be of interest; still more if the vaccine were of the Rosenow type—a form not now available. Subcutaneous injections of a reliable leucocyte extract, in connection with bacterins, should be of therapeutic value, since favorable reports have been made of its action in influenza and pneumonia.

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MODERN SCIENTIFIC VIEWS ON THE PATHOLOGIC BASIS OF NARCOTIC DRUG ADDICTION.

BY

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The phenomenon manifesting itself in narcotic drug addicts that most strongly catches the eye and appeals most strongly to the imagination of ordinary non-discriminating minds is the dogged persistence with which addicts will seek to obtain their drug of addiction when forced to suffer the pangs of withdrawal. It is a mystery to these minds and recourse is had to the realms of mystery for explanation of the phenomena; and they have drawn the conclusion that the continued use of narcotic

drugs is a habit that gives the user such exquisite pleasure or sensuous feeling of some sort that they are ready to go to any length to obtain the drug; that it is a vicious taste or desire; and that it is a manifestation of degeneracy or criminality on the part of the affected individual. And these same non-discriminating minds have looked upon the intense sufferings of the addict when deprived of the drug—withdrawal symptoms—as feigned, exaggerated—only assumed to excite sympathy in the hope of thereby moving someone to supply the drug.

Under these conceptions concerning drug addiction, addicts have had a hard time of it for their lives and their livelihood. They have been ostracized, humiliated, driven from pillar to post. Laws have been passed for the purpose of abating the evils of this condition—a perfectly proper purpose; but conceived and administered in the light of the condition being a habit, a vice, a depraved taste, the addict has been seized and treated as a criminal, thrown into jail and caused to suffer the most excruciating, agonizing tortures of body and mind—even to die—perhaps by his own hands. Even hospitals, whose function is to alleviate the sufferings of the sick and diseased and restore them to health and normality, have not shown to them the same kind, considerate sympathy and attention given to those suffering from other disease conditions.

Similarly under these conceptions of the nature of drug addiction, members of the medical and pharmaceutical professions have been harrassed and persecuted by the administrators of the laws—even tho such members of these professions have been engaged in honest attempts to relieve the sufferings of these unfortunates and to study the nature of the condition from all its angles.

This has all come about because of a lack of knowledge and understanding of the real nature of narcotic drug addiction and of the principles underlying *first*, its causes and manifestations and *second*, the means and methods of terminating the process in the human body causing the continued use of narcotic drugs.

Certain keen observers among the medical profession, however, associating these severe sufferings of addicted individuals during the withdrawal period with another striking fact and phenomenon characteristic of the addiction state—the fact that drug addicts can tolerate enormous doses of the drugs with impunity—at last reached the conclusion from their observations and study that some deep alteration had been produced within the body of the affected individuals which gave these phenomena an entirely different aspect than those of a habit or a vice. Especially were they struck by the fact that the sufferings of the addicted individuals were often of so severe a nature as to lead to collapse and death. Dying certainly cannot be said to have been feigned or assumed or even a habit, certainly not a vice. These observers soon realized that narcotic drug addiction is a disease of the human body, and that the sufferers should, therefore, be treated with the same care and consideration as the sufferers from any other disease. The pioneer in this conception of the nature of drug addiction was Oscar Jennings of Paris, himself an addict, who practiced and taught two decades ago. Nearly contemporary was our own countryman, Dr. George E. Pettey of Memphis, Tenn., who contributed decidedly to a clearer understanding of the condition. Still more recently Dr. E. S. Bishop of New York, as a result of his clinical experience and study, saw an analogy

between the immunity conferred by the invasion of the human system by bacterial organisms, or the injection of foreign protein matter into the system, and the immunity evidenced by the narcotic addicts to otherwise lethal doses of the narcotic drug, and came to the conclusion that all the manifestations characteristic of the narcotic drug addicted state were to be explained by the presence of certain antidotal substances formed within the body, as a result of some sort of mechanism of protection developed by the prolonged use of narcotic drugs.

Laboratory experimental research—hitherto neglected in our own country—has been carried out in the scientific laboratories of Europe in an endeavor to determine the reason for the sufferings of the addict in withdrawal of the drug and the addict's tolerance, and similar conclusions were reached. These experiments while yet in an unfinished state have, nevertheless, proceeded to such a stage as to help clear away many of the uncertainties associated with this condition under discussion; and they most strongly and convincingly argue for an antitoxic substance in the blood.

The most complete and recent and convincing of these laboratory experiments were carried out by Dr. Adriano Valenti in the Institute for Experimental Pharmacology of the Royal University of Pavia, Italy; and the lessons taught by these investigations are so important that they are deserving of widespread publicity for purposes of instruction of all those having anything to do with the perplexing problems surrounding the whole question of narcotic drug addiction. This is my excuse for discussing this subject and in particular, calling attention to these experiments of Valenti.

In these experiments dogs were taken in sets of pairs, of as near the same varieties as possible, of nearly equal weight and physical condition and subjected to different lines of procedure under similar conditions or environments.

In one of these pairs of nearly equal weights, one dog received daily increasing doses of morphine until it could tolerate with impunity such large doses as twenty-two grains (1.50 grammes) of morphine hydrochloride daily. When this point was reached the morphine was suddenly withdrawn and the dog was precipitated into a state of intense suffering identical with that manifested in the human being during the period of withdrawal. The pulse rate and blood pressure were taken in this dog by means of the appropriate instruments before and after withdrawal, compared and studied and it was seen that the same violent fluctuations took place in the rate and the rhythm of the pulse and of the blood pressure that are characteristic of the period of withdrawal of humans. On the third day of withdrawal of the drug, blood was withdrawn from this dog by venesection and serum obtained from it was injected into the veins of the other dog which had received no drug whatever. The same violent disturbances in the rate and rhythm of the pulse and of the blood pressure were noted as when the drug was withdrawn from the first dog of this pair.

In this experiment the morphinized dog received a total of 270 grains (17.92 grammes) of morphine hydrochloride in a period of fifty days, beginning with a daily dose of $\frac{3}{4}$ grain (0.05 grammes) and gradually increasing up to 22 grains (1.50 grammes). Now another set of dogs was taken in which one of them received a much larger total of the same drug, 825 grains

(55.12 grammes), in a period of three months, beginning with a daily dose of $\frac{3}{4}$ grain (0.05 grammes), gradually increasing up to 34 grains (2.25 grammes). Then the drug was withdrawn, and on the third day of withdrawal serum from this dog was injected into the veins of the other dog of this pair. The same observations and study were made as before; and it was seen that the same violent disturbances in the circulatory system took place as before, *but that they appeared more readily and strongly* in the experiment in which the *larger daily doses* as well as the *larger total doses* had been administered.

Now in order to meet the objection that the serum of normal dogs may also produce the same circulatory disturbances, another series of experiments was undertaken with several pairs of dogs under similar conditions as the other experiments. It was shown by these experiments that the serum obtained from a normal dog that had not received a particle of morphine did *not* call forth such circulatory disturbances when injected into the veins of another dog even in considerable quantities.

Then follow a series of experiments to determine whether any relation exists between the duration of the abstinence period and the activity of the serum from the morphinized animals of the different pairs of dogs taken. One dog of each pair received a total amount of the drug differing in amount for each pair and the serum obtained from these dogs after periods of abstinence varying from three to ten and twenty days respectively injected into the veins of the other dog of the respective pair. From these series of experiments, it was again demonstrated that there is a direct relation between the circulatory disturbances produced by the serum of morphinized

dogs in abstinence and the quantity of the drug tolerated; that with like amounts of the drug tolerated, the length of the abstinence had very little influence upon the activity of the serum from the morphinized dogs in producing the circulatory disturbances in the normal dogs—even when larger quantities of the morphine were tolerated. Thus the serum obtained after a period of abstinence of twenty or ten days had nearly as much effect in causing these disturbances as a serum obtained after a three-day abstinence.

Finally a series of experiments was undertaken in which after the drug had been withdrawn from morphinized dogs for varying periods and the resulting circulatory disturbances studied and observed as hitherto noted, the drug was again injected and it was noted that these circulatory disturbances became gradually weaker when the drug is again injected, finally disappearing as soon as a dose is injected equal to the dose previously tolerated; beyond this dose the ordinary morphine pulse is obtained as tho injected into a normal animal.

Another experimenter, Hirschlaff, carried out another series of experiments along another line. He took a number of rabbits and by daily increasing doses of morphine injected subcutaneously produced in them the state of drug addiction. Serum obtained from these morphinized rabbits was injected in gradually increasing doses into mice, which are exquisitely susceptible to the toxic effects of morphine. After these injections of serum, morphine was injected in the mice and they were able to withstand several times the size of the dose that would ordinarily have caused death in mice. Gioffredi produced a similar immunity in kittens by injecting serum from morphinized addicted dogs so that these kittens

could withstand two and a half times the ordinary lethal dose for kittens.

It is true that Valenti's experiments are not complete. Much remains to be done in order to settle the many questions that arise in the course of the experiments; nevertheless, they have sufficiently advanced to draw conclusions from and enable a better and clearer understanding of the many perplexing phases of drug addiction manifested in man. And tho the results of Hirschlaff's experiments have been combated, the fact that even partial immunity to lethal effect of morphine has been produced can perhaps be explained by the difference in procedure in Hirschlaff's and Valenti's experiments.

Taken together these two sets of experiments permit the conclusion, *first*, that the serum of morphinized addicted animals possesses the power of producing immunity to the lethal effects of narcotic drugs, and that this power is due to antitoxic, antidotal or antibody substances whose exact biologic or chemical nature has not yet been definitely determined. *Second*, that these antidotal substances when free in the blood serum uncombined with the narcotic drug as happens in the stage of withdrawal are themselves toxic and produce those manifestations of suffering and collapse that are characteristic of that stage.

Starting from these antidotal bodies as a basis, it is perfectly plain why addicts persist in having recourse to their drug of addiction. They go to that drug—not because of any desire to enjoy sensuous pleasures or even to enjoy solace and comfort. Nor because of any criminal or depraved or degenerate taste or tendency in the individual; but it is for the purpose of avoiding those pains and sufferings and tortures and collapse that experience has told them

will inevitably follow on the withdrawal of the drug—due, as we know, to the presence in the blood of some free uncombined, unneutralized antidotal substance—whatever may be its nature.

Experience has further told them that the drug is the only medication that will prevent those sufferings and those tortures. It has been objected that it is reasoning in a circle to say that the drug begets the antidotal material and that the antidotal material requires the drug for neutralization and that hence drug addiction is a self-perpetuating condition. To those making this objection, it can only be said that, as scientific men, we must base our deductions and conclusions on the preponderance of available scientific observation and experiment. Until or unless some better explanation shall some day be offered, we are compelled to proceed on the facts stated above. Experience has demonstrated it to be a fact that opiate addiction is a self-perpetuating condition until definite and effective means of terminating the process that brings these toxic, deleterious antidotal substances into existence have been applied to arrest their activity and production.

Valenti's experiments have shown that the serum is still active, capable of producing disturbances within the organism, that is—free, uncombined antitoxic bodies are still vigorously present after a withdrawal period of twenty days as well as a period of ten or three days. How much longer is the serum thus active in producing these deleterious results? More research work is necessary to demonstrate this point in animals; but clinical experience tends to show that there is something in the body after unsatisfactory withdrawal which keeps alive apparent withdrawal symptoms even as long as two years. This explains

the failure in the past of attempts at forcible deprivation of opiates. And it also explains the failure of so many attempts at more or less gradual reduction in which a routine of reducing the daily dose of the drug administered or taken is followed without paying any attention to the clinical demands of the case or the indications of addiction symptomatology.

In a word the ignoring of these scientific and laboratory investigations may prove to be the basic reason for our failure hitherto to control or solve the drug problem—clinically, by legislation, by administration, or otherwise.

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Cystitis.—Without urinalysis, both chemic and microscopic, and the cystoscope, one cannot be certain of cystitis. Keep the urine well diluted and we know this by sp. gr., which should be kept below 1020 down to 1015 if possible, and this is done by the patients drinking plenty of water. Some balsamic, such as oil of wintergreen, sandalwood or turpentine, with an alkali, is indicated. Urotropin in any kidney complications. The local treatment is the most important and nothing is better than weak solutions of boric acid in ammoniacal urine. In acute cases, weak solution of silver nitrate 1-5000, or protargol in 3 per cent. solution.—*Texas Medical News*.

THE INGROWN TOENAIL.

BY

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One of the most important as well as the most painful of minor surgical conditions is the ingrown toenail. This is a condition in which the nail, usually of the large toe, tears into the tissues beneath and causes irritation, ulceration, suppuration and granulation.

The question has arisen whether it is the nail or the flesh around it that is pathologic. Some have argued that it is the tissues overriding the nail that give rise to the condition. To my mind both pathologies are correct. I have seen ingrown toenails in which the form of the toe was normal and the nail as a result of a badly fitting shoe grow downward and cause ulceration and suppuration. I have also seen toenails that were normal in form and yet be almost completely covered by the overgrowing flesh and granulations. Whatever may be the more common condition is immaterial. We have a distinct pathology that indicates a definite line of treatment and after all that is what we are mainly concerned with.

Let us briefly review the anatomical structures of the terminal phalanx of the great toe. Beginning at the top we have the following structures in the order named: nail, matrix, subcellular tissue periosteum and bone. The matrix extends almost to the head of the terminal phalanx. It is very important to remember this fact when removing the ingrown part of the toenail.

The pathology may be briefly stated as follows: As a result of injury, shoe pressure or improperly manicured nails, the underlying skin is injured and the sharp edge of the nail acting as a foreign body on the exposed sensitive surface produces pain. Because of the continued irritation of the base of this sore, the newly formed epithelial cells are destroyed as rapidly as they are formed. An inflamed granulating, discharging ulcer results. On account of the superficial character of this ulcer, the discharge is easily eliminated and infection rarely takes place. This condition may go on for months and even years, always causing great distress and pain to the patient. The patient will seek relief by buying oversized shoes and removing the troublesome part of the ingrown nail. This will give him temporary relief from pain, but as soon as the nail grows out again the old condition will result. A pathologic relation between nail and underlying tissues has been established and simply removing that part of the nail causing the irritation of the ulcer will give temporary relief only. The nail and matrix have been bent downward and the nail will continue to grow deformed and produce the same symptoms, just as after the removal of a twisted nail from its bed, the new nail as it grows out will be just as deformed as the old one. If the flesh is at fault the relief will also be temporary. The nail will soon grow out again and produce the same pathology.

Our understanding of the pathology gives us a distinct and only method of treatment and that is the complete removal of the bent portion of the nail together with its accompanying matrix and also the granulations produced by the irritation of the nail.

The technic of the operation is as follows: In severe cases and in those patients

in which the condition has existed for a long time and the toe is edematous as a result of chronic irritation and a pussy discharge is present, I remove the irritating portion of the nail with a scissors. The patient is then instructed to soak his toe morning and evening in hot boric acid solution for several days till the pussy discharge ceases and the swelling disappears. By doing this I get much better results when the radicle operation is done and the tissues seem to heal better. In milder cases I proceed with the radicle operation at once.

The toe is washed as thoroly as possible with tr. green soap and water, then dried with sterile gauze and painted with tr. iodine. The circulation is shut off by applying a broad rubber band at the base of the toe. A large piece of sterile gauze or towel with a hole in the center thru which the toe protrudes is passed over the toe, folded over the other four toes and held together with a sterile safety pin or artery clamp. We now have a sterile toe surrounded by a sterile field.

From two or three stations infiltrate the area around the side of the toe that is to be operated upon with a local anesthetic, usually procaine $\frac{1}{2}\%$ to which 5 minims of adrenalin to the ounce has been added. Inject several drops of the anesthetic solution under the nail and as far back as the head of the first phalanx. After the first injection of procaine the subsequent injections should be painless. Inject slowly and always insert the needle within the border of the area that has already been anesthetized. If the injections are properly placed the patient will have no pain during the operation. The operative field is now completely anesthetized and we may begin with the operation proper.

Place the knife right over the bend of the

nail where it begins to dip down sidewise and cut thru the nail. Extend the incision upward almost to the head of the first phalanx. The incision should go right thru the matrix which is a dense white structure immediately below the nail. The incision should be parallel to the long axis of the toe and at right angles to the nail in order to avoid removing more matrix than nail. Every piece of nail has its corresponding portion of matrix. If more matrix is removed than nail, the cut end of the nail will become distorted and blacken as it grows out. If, on the other hand, more nail than matrix is removed, a piece of matrix will be left in the operative field. The nail coming from that piece of matrix will either force its way out of the toe as a harmless stub or may pierce the skin at the side of the nail and necessitate a secondary operation. It is advisable, therefore, before making the incision to outline it lightly on the nail. If this is done properly the resulting nail will be normal in appearance.

After the incision has been made, the overlying skin at the side and top should be dissected from the strip of nail and matrix to be removed. The nail and matrix should be removed by careful dissection without any tearing or pulling as a portion of the matrix may be left in the operative field. The base of the ulcer and the granulations should then be carefully cut away. The wound is now thoroly cleaned with an antiseptic solution.

If the edges of the wound do not fall together easily a black silk suture may be placed above the nail and another at the tip of the toe to bring them together, but no tension should be necessary to do this.

A wet antiseptic dressing is then applied to the toe. There should be no bleeding during the operation and, as a rule, there

will be no blood-vessels to ligate, especially since the dressing is applied before the elastic tourniquet is removed.

The dressing is kept wet for two or three days with an antiseptic solution and then may be changed to a dry dressing. The sutures if applied should be removed by the seventh day and by the tenth day the wound is usually healed. There is hardly any deformity. By comparing both toes of patients I had operated on six or eight months previously it was difficult to differentiate the operated toe from the other.

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Organotherapy in Diabetes.—Among the arguments in favor of the assumption that more than one endocrine organ may be involved in the production of diabetes, Koopman (*Nederlandsch Tijdschrift v. Geneeskunde*, Oct. 11, 1919; abst. *Jour. A. M. A.*, Jan. 31, 1920) mentions that the suprarenals have sometimes been found diseased in diabetes; that the reaction to phlorizin is often exceptionally severe in exophthalmic goiter, suggesting involvement of the thyroid; that this excessive reaction is not observed after partial thyroidectomy, and that the tolerance for carbohydrates is abnormally low with exophthalmic goiter. Müller has reported a case of the latter given thyroid treatment; sugar appeared then in the urine and the patient died in diabetic coma. Such facts suggest some participation of the thyroid in the etiology of diabetes. The pituitary also may be involved. Diabetes has been observed in 40 per cent. of the cases of acromegaly, but acidosis and coma are extremely rare in such cases. Steiger could find only five cases in his compilation in 1917. In one of Stadelmann's two cases, after death in coma, the pituitary was found diseased, but the pancreas was apparently

sound. In Steensma's case, the girl had diabetes and a tendency to obesity; radiography showed abnormal conditions in the sella turcica; carbohydrates could not be tolerated, but pituitary treatment gave good results.

Koopman has encountered two cases of pituitary diabetes which he describes in detail, calling attention to the absolute intolerance of albumin in both. The first patient, a man of 40, had no glycosuria after 100 gm. of bread, but after 50 gm. bread and 50 gm. meat there were 38.6 gm. sugar, and after 100 gm. bread and 50 gm. meat, 69.2 gm. sugar. The roentgen findings in the pituitary region were normal and the Wassermann reaction negative. But after three days of tentative pituitary treatment, no sugar appeared in the urine after ingestion of 200 gm. bread and 50 gm. meat, and even when this meat ration was doubled, only 16.4 gm. sugar were found in the urine. The patient during a whole year presented glycosuria whenever the meat ration was increased, while carbohydrates did not increase the sugar content. Whenever the pituitary treatment was interrupted, sugar appeared in the urine by the second day. Acetone and diacetic acid were never observed after the very first. The second patient presented much the same picture, but radioscopy was not available. The glycosuria was brought under control with pituitary treatment, but the man wearied of it in two months and of the restriction of meat, and dropped the whole, dying three months later in coma. In conclusion, Koopman extols the Allen fasting treatment of diabetes as probably destined to be "the" treatment, and points out that a trial of this may aid in the differentiation of this pituitary form of diabetes. In any event, the trial can do no harm. The classic method of estimating the tolerance does not give an insight into the metabolism in diabetes; the sugar content of the blood is more instructive than that of the urine. If a special susceptibility to albumin is discovered, the pituitary should be thought of.—*Jour. A. M. A.*, Jan. 31, 1920.

Progress in Endocrinology.—New chapters are being written in medicine, and as an editorial writer in the *New York*

Medical Journal (Feb. 7, 1920) well states, one of the most important of these is endocrinology. Gross anatomical and physiologic changes due to the removal or malfunctioning of various glands of internal secretion have been observed for hundreds of years. The high pitched voice, skeletal changes, and various feminine characteristics are well known in eunuchs. In Graves' disease we find tachycardia, rapid speech, exophthalmos, perspiration, loss of weight, and other well-marked physical and psychical changes. And so, little by little, we have come to recognize the grosser changes due to disturbance in the endocrine glands. The laboratory has also contributed its findings on the subject of endocrinology—substances affecting blood pressure, striped and unstriped muscle fibres, the oxygen-linking qualities of the blood, calcium metabolism, and many other vital functions have been attributed to one or another of the glands.

The subject of endocrinology now has a new impetus and is being attacked from a new angle. It is felt that this new method of attack, the clinical, will prove of greater value than former methods. More detailed observations have been made and various endocrine types have been noted. Minute landmarks—the arrangement and texture of the teeth, the distribution of the hair, the coloring, the location of various forms of pigmented moles, the position, shape and size of the ears, skeletal proportions—these and many other markings have proved of service to the careful worker in endocrinology. It has been shown that certain types dominated by one or another of the endocrine systems are more susceptible to certain diseases and are more likely to be unfavorably influenced by certain drugs.

Another important point emphasized by modern workers in endocrinology is the correlation of the various glands of internal secretion, which at times assume each other's function either wholly or in part. Again, a gland may appear to be at fault and the entire organism may be suffering from the effects of excessive secretion discharged into the circulation, when the fault lies in another gland, remotely situated, whose secretion or lack of secretion is causing the hyperactivity of the gland under suspicion. The surgeon will often attack the innocent gland and not be able to account for the failure of the operation.

Formerly the dose of a given endocrine gland was based on the gross changes it produced; this was due to the radical requirements of myxedema and other well-marked abnormalities. Recent findings, however, have demonstrated that an extremely minute dose often suffices. Sterility has frequently been overcome by minute doses of ovarian gland. Sometimes the difficulty has been attributed to a lack of stimulation of the gonadal glands from the adrenals or the pituitary, and the ovarian difficulty has been overcome by small doses of these glands. Headache caused by hypersecretion of the pituitary, due to a failure of the check exerted by other glands, has been overcome by feeding adrenal gland in small doses. On the other hand, headache may be caused by a hypersecretion of the adrenals causing an adrenal drive, and this in turn may be remedied by glandular therapy which will tend to overcome this tendency.

Differentiation of Early Tuberculosis from Hyperthyroidism by Epinephrin Test.

—For three years Goetsch (*American Review of Tuberculosis*, Apr., 1919) has been using the subcutaneous injections of 7.5 minims of a 1:1,000 solution of epinephrin chloride in patients who present marked symptoms of hyperthyroidism, but in whom no positive diagnosis can be made by ordinary methods of examination. If the patient, following the epinephrin injection, reacts with manifest symptoms of hyperthyroidism, Goetsch believes that a positive diagnosis of the condition is justified. At the Trudeau Sanatorium, Nicholson and Goetsch tested forty patients by this method. Of eighteen patients whose diagnosis was "clinical tuberculosis, questionable," ten reacted positively and eight negatively; of sixteen with a diagnosis of "clinical tuberculosis, inactive," nine reacted positively and seven negatively; and of six with active clinical tuberculosis, none reacted positively. The authors conclude that the test is a valuable aid in determining whether the disease from which patients are suffering is purely a tuberculosis, a tuberculosis complicated by hyperthyroidism, or a pure hyperthyroidism. Hyperthyroidism, whether or not associated with tuberculosis, will give a positive reaction to epinephrin. Tu-

berculosis, uncomplicated by hyperthyroidism, does not react positively to epinephrin. They feel that in a considerable number of border-line cases presenting symptoms more or less characteristic of both conditions, they can now pick out those suffering with hyperthyroidism.

Hyperthyroidism.—Crile, in *Surgery, Gynecology and Obstet.* (Jan., 1920), holds that in post-operative thyroidism the cause of death is excessive chemical activity. Therefore, the urgent need in these cases is a safe means by which this excessive chemical activity may be controlled. It is known that with each degree of rise in temperature, the chemical activity within the organism is increased 10 per cent.; that is, if the temperature of the patient has risen to 106°, his metabolism has increased 70 per cent. Conversely, with each degree of fall in temperature, the metabolism will decrease 10 per cent. Once convinced that this physical-chemical principle held true for hyperthyroidism, the patients are packed in ice and this procedure acts almost specifically in controlling the destroying metabolism. The patient is covered with a rubber blanket, surrounded and covered with broken ice, and an electric fan is used to promote evaporation.

An Introduction to the Study of the Endocrines in Gynecology.—Bandler reports in the *New York Medical Journal* (Feb. 7, 1920) that endocrinology is making such vast and rapid strides that it promises to overthrow entirely many of the older notions of physiology and therapy in our text books. By working together we may soon prove beyond a doubt that while heredity shapes our ends there is an endocrinity that runs parallel.

The greatest advance has been made in the application in gynecology. *First*, because the endocrines dominate the physiology of the special sex functions and phenomena; *secondly*, because therapy is often prompt and exact and convincing, when prescribed on the basis of physiology.

Due to the fact that many states are now recognized as due to endocrine abnormali-

ties, gland extracts viewed simply from the viewpoint of therapeutics have replaced many of the old-time drugs because of their better and more specific action. For instance, we no longer use iron and arsenic alone in the treatment of amenorrhea; the preparations of ergot and hydrastis have been replaced by gland extracts in the treatment of menorrhagia and metrorrhagia; strychnine and allied stimulants are no longer relied upon exclusively for the treatment of various forms of physical asthenia. Restriction of a harmful diet or the imposing of a definite diet are not the sole factors in the forms of malnutrition of children, in altered metabolism of adults, and in the treatment of obesity.

Undoubtedly the greatest difficulty in the proper interpretation of interglandular upset, depends upon the fact that so many of them are of minor degree, of a degree less than is typical of the well-exemplified cases.

Enlarged Thymus.—Brooks reports in *Ohio State Medical Journal* (Jan., 1920) having arrived at the following conclusions:

1. The function of the thymus gland is still a much disputed question.
2. Whether sudden death in children is caused by mechanical compression of an enlarged thymus or by changed secretions from the glands is still undecided.
3. X-ray is the most valuable method of confirming our diagnosis and our very best method of treating this condition.

Organootherapy has been tried with very poor results, as we know so little about the functions of the gland.

Diabetes Insipidus.—Writing in *Progrès Médical* (Sept. 13, 1919), Lereboullet reports considerable success in prescribing pituitary extract for a patient, who first had syphilis, then pneumonia, which was followed later by progressive infantilism, impotence, obesity and polyuria. Marked improvement continued the administration of pituitary extract. The improvement, however, continued only so long as the administration of the pituitary extract was kept up.



Treatment of Club-Foot by Massage and Mechanical Appliances.—According to Toepel (*Jour. of the Medical Association of Georgia*, Jan., 1920) treatment should commence from the day of birth, since in the first three months of life, bones and cartilages are soft and yielding and growth is rapid.

Every club-foot can be cured with good functional motion if the member could be held to the corrected position by a human hand for six months. To approximate such a condition the foot must be untwisted by the nurse many times a day for a minute or two at a time, but not to the extent of giving the infant pain. Whenever the baby is in the lap or at the breast, the foot can be gently held in a partially corrected position without annoying the child. Pressure should be intermitted as soon as the infant's face shows discomfort. The object of treatment is to induce growth and elongation of all the contracted muscles, ligaments and tissues, to mold the deformed bones and stimulate weakened muscular fibres. In addition to manipulation, persistent oil massage of the weakened muscles should be continued for months. If this treatment together with mechanical methods is thoroly pursued, a large majority of club-feet can be rendered flexible and made capable of being placed with the sole squarely on the floor by the time the child begins to walk. If such a result has not been accomplished by that time, operative measures are needed. No child should be permitted to bear his weight upon the deformed foot, since every step will further misshape the bones and convert a moderate into a severe deformity. Later weak electrical currents may be added, one pole being placed over a nerve-trunk and the other moved over the weakened muscle to increase nutrition and stimulate contractility.

Mechanical Treatment.—The second stage of treatment consists in retaining the foot in such position that the facets of the astragalus and other bones may be slowly molded into normal articulation. Until the infant is a few weeks old, the foot may be held in position by a piece of cardboard, or fastened with adhesive strips or tapes to permit removal and manipulation and massage.

The quick setting property of plaster of Paris renders it the most available dressing. Weekly renewals of this dressing, each time with friction, manipulation, cleansing and anointing of the skin, together with fixation in an improved position, will in a few months permit even over correction.

(a) **Progressive Rectification by Plaster Bandages.**—A better material is plaster of Paris, as it is readily molded. The foot and leg, protected by a thin stocking or flannel bandage, are enveloped in narrow plaster of Paris bandages. At the first application the deformity is only very slightly corrected—in fat, heelless feet the plaster cast should be applied over the bent knee or it will be kicked off.

When the varus has been untwisted, more attention is given to equinus, which is corrected in the same progressive manner, several months being required for rectification. After rectification the patient is encouraged to walk upon the cast.

(b) **Progressive Correction by Apparatus and Splints.**—A simple dressing for equinovarus can be made by carrying a long strip of stiff thin leather, or tin, or celluloid, or felt of zinc oxide plaster from the top of the first metatarsal to beneath the sole, then upward along the outer side of the foot and leg across the top of the bent knee. This can be fastened by adhesive strips and bandage. The effort of the infant to straighten

the knee will result in frequent correction of deformity.

After the manipulation already described and the correction by plaster of Paris splints an effective steel brace for continuing correction of both equinus and varus may be necessary.

A walking shoe may be employed to correct the equinus after the varus has been untwisted by manipulation or by operation.

If the Chinese can greatly alter their feet by bandages during infancy, we can surely mold deformed feet into well-functioning feet by corrective measures applied during the first months of life.

The Ultra-Violet Light; Its Therapeutic Value.—The therapeutic value of this ultra-violet radiation, says Humphris (*American Journal of Electrotherapeutics and Radiology*, Jan., 1920), appears to be due to its destructive action on microorganisms and to the active hyperemia which it induces in the superficial tissues. The latter is probably of the greater clinical value and within certain limits the intensity of the erythema produced in the skin in a given time may be taken as a measure of the efficiency of the treatment, tho at the same time there may be other beneficial effects. It is known that ultra-violet rays possess many chemical properties and are readily absorbed, indeed the therapeutic value of the rays of the sun is attributed to the presence of the ultra-violet portion.

The field for inquiry into the exact manner in which ultra-violet rays are of therapeutic value is by no means exhausted, but that that therapeutic value is established there can be no question. From what has been already said it is obvious that their greatest value is in superficial lesions or skin diseases, altho two cases of exophthalmic goiter in which the thyroid became smaller and the signs and symptoms decreased, have been reported. The first hundred cases under my care which were treated with ultra-violet radiation were old wounds, trench feet, ulcers on various parts of the body, inflammation of the cutaneous tissues, most or all of which presented difficulty in healing. In those which were successful my observations coincided with those of Capt. Menzies of Folkstone, namely, there was:

First.—Relief of pain. This was reported usually when the patient came for the second treatment. It varied from "slightly less pain" to "entire relief."

Second.—Decreased swelling. The inflammatory induration surrounding that in giving the treatment, special attention should be directed to the stimulation of the granulating or indurated edges of wounds. It may be necessary to pare down these edges as a preliminary to the treatment.

Third.—Improved appearance and character. There is, as a rule, a marked alteration in the appearance of the wound; unhealthy granulation tissue becomes a better color, the surface of the wound more even and epithelium begins to grow in from the edges.

Fourth.—The discharge. After a short preliminary increase, begins to diminish. It loses its odor immediately. This is, perhaps, the most constant effect. The cases sent for this treatment were those which showed little or no improvement from previous treatment. The dressings used were sterilized vaseline, in order to eliminate, as far as possible, any cause of improvement other than the ultra-violet rays, and also to prevent the newly forming epithelium being torn away by gauze dressings. In dermatology this form of treatment has a large field. Perhaps it is most successful in the treatment of alopecia. In cases of alopecia areata, fine down appears on the shiny bald patches very shortly after the treatment has been initiated. The subject of baldness, the arrest of hair growth, or the falling out of hair is far too complex a matter in which to enter here, but there is one common feature in relation to the various theories of the cause of baldness, namely, that baldness occurring naturally implies some adventitious disturbances of the nutrition of the scalp. If then, we can improve the nutrition of the scalp by the use of the rays, and perhaps in addition destroy some malevolent microorganism which is at the root of the evil, then it is evident why the rays are of so much value. True it is that itching will cease and hair stop falling out even after the first treatment.

If it had no other field of usefulness than the treatment of the scalp the ultra-violet rays would not have lived in vain. But in other troubles of the skin it may be used to advantage. Eczema, especially pustular

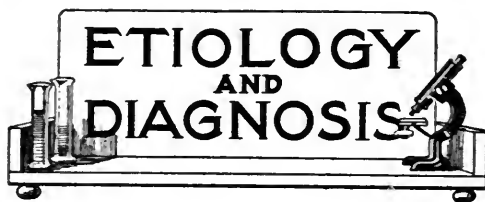
eczema, is usually benefited, and from what has been said it will readily be seen why it should be so. Chilblains, a form of erythema, appear in patients with poor peripheral circulation and a disturbed vasomotor mechanism. The good results are probably due to the direct effect of the rays on the peripheral vessels and blood stream. The rays are not only of value in removing the lesions, but if used sufficiently early in those who have had previous attacks may prevent a recurrence. Used in conjunction with the melted paraffin wax bath, I think it may be said that sufferers from this complaint need fear it no longer.

When the rationale of the therapeutics of ultra-violet radiation is considered, other and more varied uses will suggest themselves, but even if this were not so, those already indicated would more than justify its inclusion in the armamentarium of the modern physiotherapist.

The Value of Heat in Treatment of Local Infections.—Crile, in *Modern Medicine*, (Nov., 1919), asserts that "the therapeutic value of heat has been sanctioned by the experience of physicians and of the laity since the dawn of medical history. The therapeutic place if no other agency is as secure. Moist heat, dry heat, radiant heat, electric light, sunlight—all favorably influence the infections.

"In what way may heat exert its beneficial influence? Granting the premise that the natural defense of the organism against infection is made thru the agency of phagocytosis and the chemical antagonism of the blood plasma, it becomes evident that in either case the defense is chemical. The fact that the defense is chemical gives at once a clue to the mechanism by which heat assists the defense against bacteria. It is probably because with the rise of each degree in temperature in any system, inorganic or biologic, the chemical activity is increased 10 per cent. and the electric conductance $2\frac{1}{2}$ per cent. The increased chemical activity increases the chemical defense; the increased electric conductance increases the metabolism. Therefore, we may suppose that heat accelerates the chemical defense as far as it involves the metabolism of the phagocyte, and as far as it involves

chemical defense of the blood plasma, and that heat aids also by increasing the total amount of blood in the inflamed part, thereby increasing the number of phagocytes. Moreover, heat assuages pain."



Neurosyphilis Prophylaxis.—Hampshire (*Texas State Jour. of Med.*, Feb., 1920) asserts that an early spinal puncture will often enable the wary physician to institute measures that will prevent paresis, optic atrophy and tabes.

It enables the physician to have a more definite idea as to what his treatment is doing for his patient, no matter what that treatment may be.

As infection of the nervous system comes during the secondary stage, delay beyond this period in doing lumbar puncture for diagnostic purposes means the loss of invaluable time if we expect to reduce the number of tabetics, paretics, etc., by early intensive treatment.

As investigation indicates that the nervous system is involved in a much larger percentage of cases than is commonly supposed, all physicians treating syphilis should have the equipment necessary for these special examinations. It is only thru a more general recognition of the importance of this method of diagnosis that the future holds definite promise of successful neurosyphilis prophylaxis.

Nausea as a Nasal Reflex.—Sluder asserts in his paper before the American Laryngological Society (reported in the *Laryngoscope*, Dec., 1919) that his interest in this phenomenon began ten years ago, when he injected the nasal (sphenopalatine) Meckel's ganglion with plain 95 per cent. alcohol. It was not uncommon then to produce nausea by that injection. He had seen such a case in which the patient was nauseated instantly by the injection, vomit for six days, intermittently. He had seen this phenomenon also follow the postethmoidal-sphenoidal operation. Since he added carbolic acid to the alcoholic injection, nausea has been much less frequent, but still sometimes follows. Frequently, in the throes of severe pain produced by any cause, nausea and vomiting occur, a fact which has been well known probably thruout all time. Anything which will stop the pain under these conditions will stop the nausea. So it has happened that on many occasions a severe nasal ganglion neuralgia has been accompanied by nausea which ceased with the cessation of the pain by anesthetizing the ganglion.

Such cases have been quite frequent in my experience; but within the past year Sluder has had a number where there was not any pain, altho the nausea was severe. In one severe nasal neuralgia, on many occasions pain was absent, altho a purposeless vomiting had continued for twelve hours, and was stopped in five minutes by the application of one drop of 90 per cent. cocain to the nasal ganglion district. This has been repeated many times in this patient.

In another case, one of hyperplastic nonsuppurative sphenoidal headache, marked nausea without headache is sometimes manifest. Application of one drop of 90 per cent. cocain solution to the floor of the sphenoidal cell stops it in about ten minutes. In this cell, the Vidian canal may be felt elevated from the floor about one-half centimeter.

These observations indicate that the power of making nausea reflex from the nasal ganglion or the Vidian trunk is independent of any pain complement. They suggest, however, that in whatever way the reflex is made it is probably not unrelated to that which makes the pain, inasmuch as it is relieved by cocain locally applied, just as the pain reflex is stopped. Overdosing with cocain makes nausea return in these cases.



Removal of Tonsils.—Tho many surgeons remove only tonsils that are a menace to their possessor, it is certainly true that several men (and particularly the young and enthusiastic just leaving special training) remove many harmless, innocent victims and believe in so doing they have removed the source of all ills. Faville (*Virginia Medical Monthly*, Sept., 1919) claims that most modern surgeons are in accord with an eminent New York specialist in his summary of a paper on the subject written over four years ago in which he says:

1. That the tonsils have a definite function in early childhood.

2. That tonsils should not be removed unless there is some especial indication before four years of age.

3. That small, buried tonsils associated with enlarged cervical glands should always be completely removed unless some other definite cause is found for the condition.

4. That tuberculosis is often found to be of tonsillar origin.

5. That one of the most important points to be considered in judging whether a tonsil should be removed or not, is the size of that tonsil in relation to the individual throat.

6. All tonsils, large or small, which seriously

interfere with respiration should be removed.

7. That many local pathologic conditions are caused by diseased tonsils.

8. That many cases of middle ear catarrh could be prevented by removal of the tonsils.

9. That there is a distinct relationship between the tonsils and many general diseases.

10. And, finally, that the promiscuous removal of the tonsils of children, without the finding of some associated pathologic condition, is pernicious; and that all cases demanding operative interference should be carefully selected.

Camphor in Pneumonia.—Bryan in the *China Medical Journal* (Sept., 1919) states that camphor has been used to a considerable extent in Europe and by a good many doctors in America, but as he understands it they have employed it merely to stimulate the heart. His idea is different. It should be used for the purpose of overcoming the toxemia and killing the pneumococci. For a heart stimulant he uses digitalis usually after the third day. He says he has cured twelve consecutive cases.

As soon as the diagnosis of lobar pneumonia is established he gives an adult $2\frac{1}{2}$ mils of a solution of camphor and olive oil. Each mil of the solution contains $2\frac{1}{2}$ grains of camphor. He usually uses a glass syringe holding two mils and pulls the barrel out as far as possible, which gives about $2\frac{1}{2}$ mils, making approximately six or perhaps seven grains of camphor every four hours in the daytime; the patient gets four doses every day. If the patient is not seen until the fourth or fifth day, or if he is in a very bad way, the hypodermic injections may be continued for one or two nights. Poisoning is not likely to ensue. If the case is seen late and the pulse is weak, ten drops of the tincture of digitalis are given by mouth three times a day and once at midnight if necessary, tho the fourth dose if repeated is likely to cause diarrhea.

About the third day after the camphor has been given the rusty sputum is replaced by whitish and mucopurulent sputum and the temperature begins to fall; it is normal by the fourth or fifth day, but the patient is comfortable after the second day.

Bryan never gives morphine for the relief of the pain of pneumonia. He thinks it dries up the secretion of the lungs and increases the temperature; instead, he applies a hot-water bottle to the affected lung and gives ten grains of sodium salicylate every four hours during the daytime, for one day or maybe two days.

In giving camphor by hypodermic injection, one dose should be put in the right triceps; the next in the left; the next in the left triceps of the arm; the next in the right quadriceps extensor of the leg above the knee, say the middle third either on top or the outer side, never on the inner side of the thigh. There is no objection to injection in the buttocks. It is best to lift up a fold of skin and insert the needle so that it will go thru the skin, fascia and fat, and distribute the oil between the fat and the mus-

cle. It is the needle plunging into the muscle that gives pain and causes a lump to appear afterwards. In women and fat people the skin is difficult to pick up this way.

The camphor is first dissolved in ether or chloroform and then mixed with the best grade of olive oil, not cottonseed oil. It is then poured into half-ounce bottles and sterilized by boiling, by boring holes in a small, wooden stand and putting in a dozen bottles at a time and settling them in a water bath. This method prevents the evaporation of the camphor. Cotton plugs are put in the mouth of the bottles and the corks dropped into the boiling water. When the sterilization is complete, at the end of one-half to one hour, the cotton is removed, and the sterile corks quickly inserted. The bottles remain sterile indefinitely. A teaspoon is flamed before pouring the oil out for use. The syringe and needle are sterilized by simply filling with alcohol and rinsing out, so one does not have to wait for it or for the oil to cool; the hypodermic injections can, therefore, be given in a few minutes. Bryan advises the smallest needles, and continues the treatment for two or three days after the temperature drops to normal.

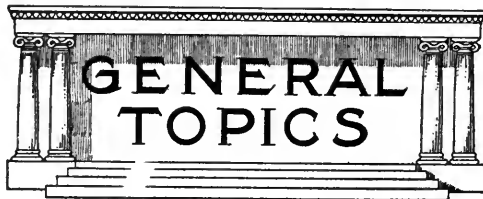
Treatment of Sea Sickness.—The resumption on a large scale of the ocean passenger traffic makes this subject rather timely, as an editorial writer in the *Medical Record* points out. Dr. Cazamian discusses it in the *Bulletin générale de thérapeutique* for November, 1919. He has devoted the past two years to the subject as visualized in the latest developments of science. Quite inevitably seasickness must be restudied in the light of endocrinology and the pathology of the sympathetic. The author has studied over fifty seasick people and finds that in the fully developed *status naupathicus* the arterial tension is increased. However, the tension drops while the illness is still present. The oculocardiac reflex was inverted in most patients, but pressure in the pit of the stomach usually accelerated the pulse. The spinal fluid obtained by puncture showed no constancy while the blood counts were within normal limits. The author found a prevalence of sympathicotonia attributable to hyperadrenia, altho Naame had reported the exact converse—vagotonia from hypoadrenia. This disparity probably means that initial sympathicotonia passes eventually into the opposite condition or, more accurately, that stimulation of the adrenal cortex leads in time to exhaustion of the same. Certainly seasickness is largely a matter of adrenal-autonomous pathology. Crises of vomiting are vagotonic—paroxysmal vagotonia. But the sympathetotonic is naturally predisposed to seasickness, just as the vagotonic enjoys some immunity. The young child, being naturally vagotonic, is immune. From this angle treatment is simple. The vagotonic paroxysms of vomiting and other critical manifestations are relieved by hypodermics of atropine, 1 or 2 mgm., and the other vagotonic standby—ad-

renalin—is a valuable synergist whenever there is a condition of hypoadrenia. If the tension is up adrenalin aggravates. It is better to give suprarenal extract by the mouth in these cases than to inject adrenalin.

Hemostasis Obtained with Small Rubber Bands Instead of Ligatures.—Angelo L. Soresi (*New York Medical Journal*, Jan. 17, 1920) has found the use of small rubber bands very satisfactory in obtaining hemostasis or for tying tissues, and recommends them instead of ligatures. The bands, one or more on each, are placed on the artery forceps, at the hinge, the forceps then being boiled, care being taken not to boil them long enough to impair the resiliency of the rubber. When the tissues or the blood vessel are caught in the usual way with the forceps, a band is slipped over the tissues or vessel with the help of the thumb forceps, and the artery forceps are immediately removed. The bands make possible the safest hemostasis because there is no danger of late hemorrhage due to the slipping of the ligature, the unraveling of knots, or the cutting of the tissues by the ligature itself. The rubber band grasps the tissues immediately and securely; at the same time it does not stop the flow of blood to the tissues by a violent strangulation, as happens when the ligature is used. The resiliency of the band prevents its cutting the tissues. The band cannot slip when it is being placed over the tissues, as it must pass from the artery forceps which hold the tissues before the forceps can be removed. As soon as the band passes beyond the tips of the forceps blades the tissues are securely held, the band forming a groove out of which it cannot slip. The application is much more rapid than that of the ligature. The rubber, when pure, is tolerated by the tissues better than is catgut, silk or any other material now used for ligatures, and also because, being free from knots and ends, it leaves less foreign material in the wound. The band, furthermore, is safer because it avoids the possibility inherent in all ligatures of having the ends act as setons. The danger of infection is less because the bands, unlike the ligatures, are never touched by the hand. Because of the gentle action of the rubber band in compressing the tissues, the tissues beyond the band are not condemned to rapid death and sloughing. In the abdominal cavity this is important with respect to the danger of infection and the formation of adhesions. The cheapness of the bands is another item of advantage. The writer has used the bands on tissues and rather large blood vessels, being unable to find on the market bands small enough for small blood vessels. In some cases he has doubled the band, but prefers a single band proportionate to the vessel or tissues to which it is to be applied.

Treatment of Otitis Media.—Otitis media as Royster points (*Amer. Jour. of Electrotherapeu-*

tics and Radiology, Jan., 1920), may occur with fever and without pain, or with pain and without fever. The former is more frequent in infancy and early childhood, while the latter is more likely to occur in later childhood. It is an error to suppose that because a child does not have an earache, there is no middle ear inflammation. The treatment of otitis media, uncomplicated by mastoid involvement, is comparatively simple, tho the results are by no means always gratifying. Uniformly red drums, even without bulging, should be incised. In cases of slightly red membranes it has been my custom to use methol, camphor and liquid petrolatum in the nose, with the idea that such a mixture contracts the swollen mucous membrane at the inner opening of the Eustachian tube, and thereby promotes drainage of the middle ear. When cases of middle ear inflammation are accompanied by tenderness over the mastoid cells it is generally agreed that the drum should be cut under the supposition that drainage of the mastoid cells thru the middle ear is promoted. Conversely, then, why should not early incision be made, thereby promoting drainage and relieving pressure, thus preventing extension to these cells?



Federal Regulations for Narcotic Drug Control.—New regulations have recently been issued for the enforcement of the amended Federal Narcotic law which hold the doctor to strict accountability for all narcotics prescribed or dispensed by him. Under these regulations every doctor who prescribes or otherwise uses in his practice opium or any of its derivatives or coca or any of its derivatives, must do the following things:

The Doctor Must—

- (1) Register with the Collector of Internal Revenue of his district, file an inventory of the narcotics on hand and pay a tax of \$3.00 annually.
- (2) Notify the collector of any change in his address.
- (3) Keep any narcotics in his possession separate from all other drugs and under lock and key.
- (4) Keep a detailed record of all narcotics dispensed by him except of those dispensed to patients on whom he is in personal attendance away from his office.
- (5) Put the date, the full name and address of the patient, and his own name, address and registry number on every prescription for narcotics he writes and sign his legal name to the prescription in ink or indelible pencil if type-

written. Such prescription must be written in ink or indelible pencil or typewritten. Such prescriptions cannot be refilled, and cannot be partially filled. No official prescription forms are provided or required.

(6) Keep a daily record showing kind and quantity of narcotic drugs or preparations dispensed or administered, the name and address of each person to whom it is dispensed or administered, and the purposes for which it is dispensed or administered. This includes all medicine administered or dispensed in the doctor's office, but does not include such drugs dispensed or administered by the doctor to a patient on whom he is in personal attendance away from his office.

(7) Record date and amount of stock solutions, pastes or ointments containing narcotics which were made or purchased for use in office practice, date when container was opened and when its contents were exhausted. It is not necessary to give names of individual patients on whom such preparations are used.

(8) Record narcotics left with a nurse for administration to a patient. No official form or record is prescribed.

(9) Indorse upon the prescription the fact when a narcotic is prescribed for the treatment of incurable disease or for an aged and infirm addict whose collapse from withdrawal from the drug would result in death, in the latter case giving the age and stating that the drug is necessary to sustain life.

The Doctor Must Not—

(1) The doctor must not telephone a prescription for narcotic drugs even if he should subsequently furnish such a prescription in writing.

(2) The doctor must not prescribe narcotics for addicts or habitual users for the purpose of providing the user with narcotics sufficient to keep them comfortable, but only in the course of professional treatment in an attempted cure of the habit.

Exemptions—

Ready-made preparations compounded in accordance with recognized, established formulas, usually carried in stock by a dealer and sold without a prescription, which contain active medicinal drugs other than narcotics in sufficient proportion to confer upon the preparation valuable medicinal qualities other than those possessed by the narcotic drugs alone, which contain not more than 2 grains of opium, or more than $\frac{1}{4}$ grain of morphine, or more than $\frac{1}{8}$ grain of heroin, or more than 1 grain of codeine, or in case of derivatives thereof, $\frac{1}{3}$ ounce, or in avoirdupois, 1 ounce, or for external use are exempted from the restrictions imposed upon physicians, but are subject to other restrictions in the hands of dealers.

The use for oral, nasal, ocular, rectal, urethral or vaginal purposes is not regarded as external use.

A mixture containing not more than the exempted percentage of narcotic drugs made up according to a private formula of the physician

and kept ready for dispensing under some fanciful name is not exempt.

Some Bacteriologic Phases of the Cholera-Carrier Problem.—Johnston in the *Journal of Science* (May, 1910) claims it has been tersely stated by Munson that the dangerous nature of frank cases of cholera with diarrhea, vomiting and collapse is well recognized by the people and consequently will be avoided, reported, isolated and followed by disinfection of their environment; in short, cases of this nature would not occasion a health department great anxiety. The cholera carrier, however, is to be regarded with concern by health officials as a dangerous source of infection; for, having no symptoms, he is not considered a menace and may go about infecting privies, food, drinks and those who come in contact with him.

The question naturally arises: What is the cause of development of cholera in carriers? Insofar as our present knowledge of the subject goes this is an unanswerable question. For want of anything more definite, it may be said in a general way that a lowering of vital resistance permits invasion. If this hypothesis be true, then we can easily understand how a carrier may become a victim to the disease at this time. But not everything is explained even by the theory of lowered vital resistance; it is still an open question. Some workers are inclined to believe that the organism itself, as occurring in persons of carriers, fluctuates in virulence; but this belief is scarcely tenable and may be dismissed with scant discussion. However, it may be that the cholera vibrio requires passage thru an intermediate human host before causing symptoms. My own observations are to the effect that the vibrios isolated from a carrier, either while living or after death, behave in exactly the same manner as do those obtained from a frank cholera case; there is absolutely no difference.

Once a cholera carrier, how long does this condition exist? This is a question of the greatest importance for the health officer. The answer can only be obtained from the laboratory, and unfortunately we are unable to answer definitely. We know that in the typhoid carrier the period of infection lasts for years, very likely for the life of the individual.

In Bilibid prison the carriers were given urotropin and, following Schöbl's experiments with ox bile in guinea pigs, 0.65 cubic centimeter of ox bile three times a day for two days; after an interval of five days the treatment was repeated. Those cases negative after the treatment were released from quarantine. The prison authorities at first, I believe, used sodium taurocholate; but, the supply of this soon becoming exhausted, I suggested the use of inspissated beef bile. It was not supposed that the bile would cure the carrier condition, but that it would cause more vibrios to enter the intestinal tract from the gall-bladder.

It will be seen from this that the administration of bile would seem to be helpful in the detection of chronic carriers.

Boot Heels as a Cause of Flat Foot, Soldier's Heart and Myalgia.—Fairweather (*British Med. Jour.*, 1918) claims that in a normal barefooted man the balance of weight is so perfect that practically no effort is required to keep erect. The weight rests on the heels and outer sides of the foot, not on the arch or inner sides. If the heels are raised from the ground by boot heels even a quarter of an inch thicker than the soles, the outer side of the foot is raised from the ground and the weight falls on the arch. The center of gravity is also thrown forward and in a man of five feet seven inches height, the head is thrown nine inches off the vertical by a heel three-quarters of an inch high. To remedy this and prevent falling forward, the back muscles and the extensors of the thigh are brought into action. Thus when an ordinary boot is used, even with a low heel, three influences tend to flatten the arch:

1. The weight of the body rests on the arch, instead of on the heel and the flat external arch.
2. The peroneus longus and brevis pull the arch down.
3. The tibialis anticus is out of action and no longer supports the arch.

The muscles concerned in preserving the erect position are in continuous contraction and get spastic, the calf and peroneal muscles being most frequently affected. The strain on the peroneals may produce spasm and pain, they also pull the arch down against the sole, producing more pain. With heelless shoes the peroneals are not in spasm and pain is relieved, the perineal are not in continuous contraction, the weight is partially relieved from the arch, which has an opportunity of recovering.

A soldier five feet seven inches high, weighing 154 pounds and wearing a heel three-quarters of an inch thicker than his sole, has to exert strength enough to be constantly raising 56 pounds from the ground in trying to preserve his balance. With 60 pounds equipment he must raise 116 pounds at every step, which is a great strain on his heart.

A woman five feet six inches high, with an arch six inches wide and wearing a heel two inches high is thrown two feet off of the perpendicular.

Strained ankle, the stoop of old age, asthma, varicose veins, weak back and spinal curvature, may also be partly due to the effect of low heels.

A rational boot should have the soles and heels of the same thickness. Under the arch the sole should be curved with a convexity upward, but not so convex as to cause pressure on the sole. The inner edge of the boot should be straight. The front part of the sole should not be curved up, but should be flat. In a hopeless case of flat foot a shoe with no heel will at least be more comfortable than the present-day boot.

Traffic in Narcotic Drugs.—Following are the conclusions from the report of the Special Committee of Investigations of the Treasury (Published from the office of the Commissioner of Internal Revenue, June, 1919):

1. Records having a bearing on phases of drug addiction are meager, if kept at all. This is due principally to lack of knowledge of the seriousness of the situation. These conditions should be remedied.

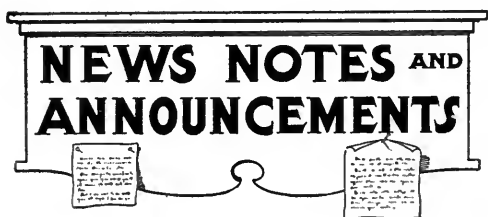
2. No further National legislation is necessary on the subject at the present time.

3. The question of the responsibility for the care and treatment of addicts should be discussed and settled as soon as possible.

4. Educational campaigns should be instituted in all parts of the United States to inform the people and the medical profession of the seriousness of drug addiction and secure their aid and cooperation in its suppression.

5. The treatment of drug addiction should be thoroly studied and standardized.

6. The medical need for heroin is negligible compared with the evil effects of its use. Manufacture, sale, distribution or administration of this drug should be prohibited by states and municipalities.



American Medical Editors' Association.—The fifty-first annual meeting of the American Medical Editors' Association will be held at the Grunewald Hotel, New Orleans, La., on Monday and Tuesday, April 26 and 27 (during the week of the A. M. A. Convention), under the presidency of Dr. Seale Harris, editor of the *South-ern Medical Journal*.

A most interesting program has been arranged and every doctor, even remotely interested in medical journalism, will find it to his advantage to attend.

It is advisable for you to make early reservation of rooms to assure you of accommodations.

Government Needs Physicians.—The United States Civil Service Commission announces that a large number of physicians is needed for employment in the Indian Service, the Public Health Service, the Coast and Geodetic Survey, and the Panama Canal Service. Both men and women will be admitted to examinations, but appointing officers have the legal right to specify the sex desired when requesting the certification of eligibles.

Entrance salaries as high as \$200 a month are offered, with prospect of promotion in some branches to \$250, \$300 and higher rates for special positions.

Further information and application blanks may be obtained from the secretary of the U. S. civil service board at Boston, New York, Philadelphia, Atlanta, Cincinnati, Chicago, St. Paul, St. Louis, New Orleans, Seattle or San Francisco, or from the U. S. Civil Service Commission at Washington, D. C.

A Million Dollars in American Drugs.—The American Red Cross gave outright \$1,000,000 to purchase drugs and other medical supplies for French soldiers, during the dark days of the war, when the French Red Cross found itself unable to provide for the 780,000 wounded men lying ill in the hospitals. This is only part of the assistance rendered the French women war workers by the American organization, according to Countess d'Haussonville, a prominent French woman.

On the occasion of the closing of the war-time cooperative arrangement between the French and the American organizations the Countess declared that the work of the ten thousand French women who cared for France's three-quarters of a million wounded men would have been impossible save for American aid.

War's Effect on French Children.—The effect of the war on the children of France is shown in a recent report submitted by the American Red Cross headquarters at Lille. The figures are furnished by the Municipal Bureau of Hygiene.

The city had a pre-war population of 200,000. The birth rate has shrunk from nearly 4,900 in 1913 to only 600 in the past year. The figures by year follow:

1913	.....4,885 births
1914	.....4,540 "
1915	.....2,155 "
1916	.....640 "
1917	.....600 "
1918	.....600 "

This indicates a total loss of 15,000 births during the war.

The death rates according to ages are not known, but since the armistice a survey has been made in all public and private schools with a view to obtaining appropriate food for all children whose development has been retarded, and to place all those who show signs of tuberculosis in the care of institutions and welfare organizations. Of 18,000 children in school at Lille at the time of the armistice, over 6,000 had to be sent to hospitals or convalescent centers.

This survey indicated that 60 per cent. of the school population showed signs of arrested development, while about 40 per cent. gave evidence of ganglionic or pulmonary tuberculosis. In one typical school, out of two hundred and ten examined, only one was in normal health.

American Medicine

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Declining Infant Mortality Rates.—

The results of intensive work along the line of protecting infancy are manifest in the mortality figures for 1919. Regardless of the fact that influenza was an active factor in affecting the death rate, the accomplishments in the ten largest cities of the United States are most satisfactory and encouraging. It becomes at once apparent that infant mortality is by no means a problem of climate, hot summers, teething, or urban conditions, *per se*, but represents the achievement or failure of organized health administrations to combat the essential problems causative of morbidity. Improvements in medicine, in so far as they relate to therapeutics, play practically no part in the reduction of infant mortality, nor can full credit for lowered mortality rates be given to the benefits of private practice. Medicine has played its part in affecting infant welfare, but it has largely been due to the social practice of medicine as involved in municipal and state organizations assisted by numerous semi-public agencies particularly interested in the problems bearing upon conservation during infancy.

Whereas ten years ago practically one child out of every six born alive died within a year, the rate for large cities has been reduced to a ratio to one in ten and even one in fourteen. These ratios are all the more remarkable in that they represent the statistics compiled by the Health Commissioners of the ten largest cities of the United

States. The infantile death rate per thousand births during 1919 for these cities was as follows: St. Louis, 75.2; New York, 81.6; Philadelphia, 89.8; Cleveland, 90.8; Chicago, 91; Detroit, 96.8; Boston, 96.8; Baltimore, 97; Buffalo, 109.85; Pittsburgh, 115.3.

At the beginning of a summer season when efforts in behalf of infancy are greatly increased, there is a splendid stimulus to greater activity because these mortality rates of infancy do not represent the irreducible minimum. There is little question but that 1920, if free from any unusual epidemic, will show marked decrease of the mortality rate for infants in these very cities that have already accomplished so much. Their prophylactic machinery is now well organized and prepared to work smoothly, and on the basis of past experience there will be improvements in technic and progress in the development of special agencies where the need for such has been indicated. It is not impossible that the general infant mortality level of these ten cities will have a median rate nearer 80 and 90 and that the lowest average will fall to 60 while the highest will not be over 100. These gains in infantile lives represent the tangible results of campaigns against infant mortality.

When the infant mortality rate drops to the level of 50, medicine will have had a most excellent demonstration of the power of collective effort on a prophylactic basis.

There will be many, possibly, who have resented the tendencies toward state medicine who, nevertheless, will rejoice in a 66% reduction of infant mortality and the consequent saving of one hundred babies out of every thousand born alive. The statistical registration of the progress of preventive medicine is without doubt a vigorous factor in establishing the benefits and advantages of present-day methods of attacking a large social problem with vast medical ramifications such as is included in the infant mortality problem.

Public Health Physicians.—The more general employment of the term "public health," carries with it a certain degree of indefiniteness as to what it is and what are its limitations. It is for this reason that there is much reason for thought involved in the definition provided by C. A. E. Winslow (*Modern Medicine*, 1920). "Public health is the science and the art of preventing disease, prolonging life, and promoting physical health and efficiency thru organized community efforts for the sanitation of the environment, the control of community infections, the education of the individual in principles of personal hygiene, the organization of medical and nursing service for the early diagnosis and preventive treatment of disease, and the development of the social machinery which will ensure to every individual in the community a standard of living adequate for the maintenance of health." The breadth of this definition is at once apparent. Public health is defined in terms that are positive and definite and afford a basis for action beyond that ordinarily considered as being possible under the police power of the state. It is not

merely presented as a field of effort that aims to protect a community against contagious disorders and their sequelæ, but as a form of public service that looks toward providing facilities that will enable every citizen to secure his maximum of health and a real provision for his development from the beginning to the end of life. Herein is the point of view that makes public health as large a problem as education and in fact education may be said to be a subordinate phase of public health activity in certain directions.

The development of the public health field has given rise to numerous types of experts whose services are required for dealing with certain restricted phases of the work. According to Winslow, at least seven types of experts with fundamentally distinct training are required in order to develop future public health campaigns along lines leading to the highest point of service and efficiency. In addition to the physician there must be found the nurse, the bacteriologist, the epidemiologist, the engineer, the statistician and the social worker. The physician himself will possess an altered point of view in that disease prevention will be constantly in mind as well as the cure of disease. In other words, an interest in communal welfare would be paramount. In all fields of endeavor the individual will be regarded in the setting of his family environment and general physical and psychical background. The incipient causes of disease will be deemed of greater importance than the attack upon the disorder when in its blossoming or fruiting stage. This requires a larger knowledge of hygiene and sanitation, economics and sociology, vital statistics and the possibilities of health administration and social machinery than is at present

provided in the curricula of our leading medical institutions.

If the physician is to be the public health administrator the opportunity for his education must be fostered. There are too few courses at present leading to a doctorate in public health and these should demand a reasonable medical training as a condition of entrance. Already the demand for doctors of public health is becoming widespread and the supply is entirely inadequate. If the American Red Cross, for example, is successful in the inauguration of its campaign for the nation-wide establishment of health centers, there will be exceeding difficulty in securing a properly trained personnel to conduct them on the highest plane of usefulness. If the extension of state facilities for clinics of various types is to prove successful there will be a need for many men and women capable and well trained in special directions, but also with a knowledge of the broad phases of public health work. Herein lies the crucial point in the development of public health work: the training of capable public health officers. The opportunities exist, but the training, therefore, does not abound in our medical institutions. Graduates in medicine are more thoroly conversant with disease in its individual manifestations than in its social ramifications. In the adjustment of curricula in our medical schools for the ensuing years it is to be hoped that there will be ample recognition of the possibilities of public health medicine so that adequate provision may be made for the training of a class of physicians for whom the future holds the greatest promise.

Aiding Social Legislation.—Another period of legislation has ended without the

adoption of a Health Insurance Bill in the State of New York. The serious objections of the medical profession undoubtedly played a part in preventing the adoption of the proposed bill. Without going into the merits of the Health Insurance Bill it must be admitted that the attitude of the medical profession toward it was more determined in opposition than during previous years when somewhat similar bills were offered.

Judging by the progress of social legislation thruout the Union, the widespread discussion of proposed welfare measures has created a large number of adherents for the general principles involved in social machinery as a means of lessening human ills. Despite opposition and various adverse forces, due possibly to misunderstanding, indifference, or a failure to comprehend its meaning, vast organizations have been built up under municipal and state auspices to conserve public health. A large number of physicians, relatively and absolutely, are receiving public money for looking after the welfare of infants and children, potential mothers and those afflicted with special disabilities such as tuberculosis, venereal diseases, heart disease and malnutrition. In addition to the demand made upon professional aid by reason of compensation acts and the provision of health officers, there is a continued building up of official connections between medical men and organized government in numerous directions. To these occupations under the auspices of recognized established agencies, there are a host of new opportunities in social medicine that have been fostered by the interests and enthusiasms of private and semi-public organizations: these are aiming to better health conditions for the general population or special groups thereof, or are demonstrating methods that are applicable for the elimination of specific

diseases. The number of societies thus working is growing apace and in consequence the dissemination of their views regarding the importance and necessity of health work is rapidly progressing. The interpretation of health needs in terms of education, efficiency, industrial output, and public safety, is creating a wider understanding of the underlying bases of social obligation. This includes an appreciation of the interdependence of human beings and the results of conditions produced by their coordinated activities and their efforts to establish a type of organization that will afford equal opportunities to all constituent units. In a broad sense, the concept of the brotherhood of man is being transmuted along practical lines into definite programs for raising the standards of society in every direction.

The interests and claims of groups within society, such as those termed "Capital" and "Labor," are being scrutinized in the light of their responsibility and obligation to the larger society of which they form a part. Similarly, the attitudes of special professions are being reviewed in the light of their relations to the body politic from which they derive their privileges and charter of rights.

In the spread of the doctrines which lead to the enactment of social legislation, an effort is being made to protect all subordinate groups, in so far as this may be done without sacrificing the best interests of the larger social group. The present clash between the medical profession and other social groups over problems relating to social insurance affords an opportunity for a comparison of the rights, interests and purposes as indicated in voiced opinion backed up by action. The final success of social insurance is probably not questioned by most persons recognizing the trends of the age.

The real question involved is based upon a consideration of the type of enactment that will finally be adopted. For this reason it is of the utmost moment that the medical profession considers the entire problem in a positive rather than a negative way. Mere opposition without the suggestion of a constructive alternative program will not serve to stem the tide of public opinion. It is scarcely believable that the medical profession is opposed to the basic principles of social insurance, but rather is concerned with its application to and results upon medical practice as at present organized. If the profession itself were to draw up and sponsor a bill incorporating its views upon the subject instead of being content with criticism and objections to proposed legislation, its arguments would possess greater force and the reasonableness of its opinions would become more apparent.

In the interests of a greater harmony with current steps toward social betterment it is to be hoped that the annual meeting of the American Medical Association may lead to a consideration of the attitude of the medical profession, with an impartial statement of the viewpoint of practitioners and possibly to the presentation of a skeleton outline of such a bill as might meet the approval of a majority of the profession. This course of action may be too much to expect, but at least it is not too much to ask for and is within possibility of achievement. By such an action the atmosphere would be cleared and the medical profession not only would place itself on record with unusual definiteness as to the merits of the questions, but would indicate the extent to which the profession is willing to cooperate in the fostering of social legislation of a type that finds itself written into the law of practically every civilized nation except America.

Protecting Infants Against Tuberculosis.—Theoretic provision for the protection of children against tuberculous infection frequently runs afoul of practical difficulties. While it is important to consider every measure for lessening the possibilities of contagion, it is patent that humane practice must be constantly borne in mind in determining upon any course of procedure.

In the *American Review of Tuberculosis* (Mar., 1920), W. J. Dobbie advocates two exceedingly radical measures to protect young children from parental infection. He states that a tuberculous mother must not be allowed to come in contact with her child during its first three years. *Secondly*, he advocates that a tuberculous father should not live in the home so long as there is an infant under three years of age. These two suggestions may be quite in harmony with present-day theories of tuberculous infection during childhood. It is undeniable that young children should be exposed as little as possible to the dangers of infection by parents, but it is doubtful whether the two procedures indicated are wholly warranted by the facts as we know them. The dangers from careless tuberculous parents are increased if they are unaware of the existence of their infection. The possibility of correcting their thoughtless habits is increased by an appeal to the necessity for safeguarding their children. Unless tuberculosis be advanced, experience has demonstrated that the benefits of home treatment are not to be disregarded in favor of extra-mural supervision.

Obviously it would be inadvisable to remove children under three years of age from their homes for periods of time extending up to three years, and it would be impossible to do so at the present time because of the lack of adequate institutions

or foster homes. Nor is it possible to give complete care to tuberculous parents outside of their homes for a period of three years without increasing the number of institutions designed to care for tuberculous patients.

In our campaign for overcoming tuberculosis, the necessity of home building must not be forgotten. The possibilities of infantile infection are more flagrant with undiscovered tuberculosis in the home, than when the disease has been discovered and scientific measures are taken to safeguard the rest of the family. The radical measures suggested are scarcely in harmony with the plans of those who are interested in the family unit and in home care of children as a measure of decreasing infant and child mortality. The vast social and economic problems which are involved in carrying out these radical suggestions would probably have a profound effect upon the mortality of infants and their parents from both physical and psychical standpoints.

This measure of caution is worthy of consideration as a spur to greater protective efforts, but it is questionable if it affords a rational and practical way out of the problem of parental infection of children with tuberculosis. Certainly during the early stages of tuberculosis when the tubercle bacilli do not appear in the sputum there is little excuse for such a severe and inhuman method of handling the situation. During advanced and open tuberculosis there is much more reason for adopting the suggestion. Under these circumstances institutional treatment is desirable because it is impossible to conceive of a tuberculous parent remaining at home completely dissociated from contact with the children in the home. The problem is intricate, but there is reason to believe that current prac-

tice does not involve very large hazards to childhood so long as early diagnosis is established and rational hygienic education and supervision are employed.

Milk Surveys and Pasteurization.—The importance of milk as an article of diet has always been emphasized, but in recent years, because of high prices, its value in the dietary has received unusual attention. Its virtues as a provider of vitamins and essential mineral components have elevated it to a position of paramount importance among our food products.

The numerous economic, social and medical questions involved in the production and protection of milk supplies have led to thorough investigations of the general problem of milk from production to consumption by the ultimate consumer. From time to time milk surveys have been made in various states and cities with a view to securing adequate data for the practical organization of machinery to alter situations not conducive to the best interests of communities in so far as milk is concerned.

The Rochester Milk Survey under the direction of Charles E. North, after a careful study of the field, arrived at conclusions leading to various recommendations to the Public Safety Committee. The fact that the Committee on Public Safety failed to accept most of the recommendations is of minor significance because for the most part such tremendous readjustments were advised that made it appear inexpedient and financially impossible. It is significant, however, that Rochester, after years of opposition by its health officers, has accepted the principle of pasteurization of milk and cream under municipal inspection or control with the exception of certified

and grade A milk. This alteration in policy in itself justifies whatever expenditure may have been involved in the milk survey. Undoubtedly, as a result, there will be a marked decline in the infant mortality rate of Rochester which will further justify the pasteurization ordinance and more than offset any costs incident to the investigation and required inspections.

A significant fact disclosed was the great financial wastage due to competitive distribution, leaving the Committee to suggest that some centralization of milk distribution should be attempted with a view to effecting a lower price of milk.

The report offered recommendations to milk producers, milk dealers and milk consumers as well as to the city authorities and to the city as a whole. The background of most of the suggestions lay in the idea of removing the milk industry from the competitive system to a centralization of the industry under municipal auspices. Concerning this proposition there are many arguments on both sides. The most significant feature of the suggestion lies in the recommendation itself, which is designed to effect every reduction in milk cost so as to provide the basis for a greater per capita consumption of milk that it is believed would result with a lower price of this commodity.

The certification of milk has been carried on principally thru medical commissions. In the days when adequately safe milk was unavailable, certified milk played a prominent part in educating the public to the need for a milk possessing some guarantee of safety for infant feeding. It is probably safe to say that certified milk as such has played but a very small part in the reduction of infant mortality because of the fact that such a small proportion of

any communal milk supply has been certified and because the cost of certified milk has been too expensive for any considerable proportion of the community. The real work of the milk commissions has been done and the tendency thruout the country to pasteurize milk supplies, without any lowering of the specifications regarding its sanitary condition, has offered a reasonably safe substitute for certified milk at a price more within the financial reach of the great bulk of milk consumers and particularly those in infancy. A grade A pasteurized milk for all practical purposes is satisfactory for infant feeding. Even a certified milk unless given adequate sanitary care in the home becomes safer by virtue of pasteurization.

Under these circumstances it would appear to be desirable that medical milk commissions extend their sphere of usefulness so as to comprehend the entire subject of milk production, handling, transportation, distribution, pasteurization and food value so as to aid in every way possible the necessary movement to increase milk consumption, particularly during childhood. A current up-to-date milk survey under the auspices of such milk commissions would be a forceful factor in helping health officers to guide public opinion and in securing necessary local and state legislation for administration concerning milk problems. The contribution of certified milk to the scheme for reducing infant mortality was exceedingly meritorious, but by no means as helpful or beneficial as has been the growth of sentiment in favor of milk pasteurization. Not infrequently, the advocates of certified milk have been found aligned with those opposing pasteurization, tho it is doubtful if today any sanitarian or health officer is to be found who would be apt to rely upon any non-pasteurized milk

supply even tho it contained a negligibly small percentage of certified milk. Certification may connote safety, yet pasteurization in the bottle assures safety. It is for this reason that medical milk commissions should turn some measure of their attention and effort to emphasizing the merit and importance of pasteurized milk as a factor in promoting the health and welfare of all people, but especially of infants and children. Pasteurization should have the influence of organized medical groups to insure that no unpasteurized milk be allowed to be sold in cities where a large element of time intervenes between the cow and the consumer. Certified milk should continue to be available and urged because of its sanitary character, but its attributes should not be regarded as nullifying the need for a more complete protection of the entire milk supply. Physicians thru unduly stressing the value of certified milk may fail in the purpose of their efforts to secure for their communities the maximum protection against infected milk and the consequent dangers of gastrointestinal diseases and milk-born epidemics of communicable and contagious diseases.

Physical Training.—Now that the exigencies of war have departed, and the nation is attacking the problems of reconstruction, it is not unexpected to have a reopening of the question of military training for boys, 16, 17 and 18 years of age.

Previous to our entrance into the war, extensive hearings on the subject were given with a demonstrated difference of opinion regarding the value and efficacy of military training as opposed to education in hygiene and physical training. The New York State Reconstruction Commission has recently

made a report adverse to military training and strongly in favor of an extension of facilities for giving an all around physical development to students in the public schools. After various hearings and a careful consideration of the subject, the commission came to the conclusion that, "Any features of military training which may continue to be used shall be employed solely for such values as they may have in physical, mental and moral development." Their recommendations include health instruction, and physical training, including a wider use of supervised games.

Experience has amply demonstrated the fallacy of endeavoring to foist military training upon the immature bodies of youth. Belligerent nations, previous to the advent of strife, even when compulsory military training was part of a national program, did not issue a call to the colors until boys had arrived at an age when they could safely participate in military drill and undergo the hardships incident to promoting military efficiency. While the heat of impending war was blasting over the country, the various states, in efforts to demonstrate their patriotism, inaugurated programs of military training. The State of New York, thru the Slater bill, established compulsory military training in the high schools for all boys over the age of 16, but excluded those engaged in industrial work. The system practically failed in its application, as only about 83,000 students have been undergoing the prescribed military drills out of the possible 300,000 coming within the age limits defined in the law. The reasons for this are immaterial from the medical standpoint, but the report of the Reconstruction Commission merits careful consideration.

The disclosures of defective physique brought out in connection with the recent

draft indicate the necessity for more vigorous action on the part of the educational bodies in order to insure a healthy citizenship. The conditions of peace demand sound bodies no less than those of war. Failure to attack this important phase of education would result in a continuance of defects and handicaps militating against the highest development of the future citizens.

Education for citizenship involves more than training for war. The readiness with which our National Army was mobilized, its ability with intensive training to fit itself for the perils and hardships incident to warfare, point out the possibility of mastering the essentially military details within comparatively short periods of time. The significant feature in developing the National Army was the inferiority of the physical stock, tho this was by no means unexpected by those familiar with the work of medical inspection in schools, and the results of periodic examinations of employees in civil and industrial life.

Development of sound citizenship is by no means a simple matter, and the Reconstruction Commission, in pointing out the importance of expanding plans for developing it, has emphasized a phase of education which has been slightly appreciated and until comparatively recent years, was sadly neglected.

The reconstruction program, however, does not go far enough. The problem must be attacked in the pre-school age, in order that incipient defects may be noted, followed up, and remedied in so far as may be possible. The making of strong men and women cannot be relegated to any single period of life. One cannot fasten upon school years as the only time during which attention should be given to this subject. It is, however, the school period which enables training to be given most effectively,

because under the compulsory education laws children are obliged to go to school, and, as wards of the State, receive the education which the State deems necessary for its own protection and advancement.

Beyond doubt, a program that begins with prenatal care and continues thru the recognized health agencies to the school period, and is then supplemented by such excellent institutions as medical inspection, school nursing, auxiliary classes for those suffering from specific handicaps, affords an ample opportunity for raising the standards of physical, mental and moral welfare of the growing generation. The problems of physical reconstruction involve the warm and close cooperation of the medical profession, which should be the leader in promoting sound citizenship, in cooperation with the educational authorities which are charged with the responsibility for the education in citizenship. Military training does not possess the general benefits that are to be derived from a rational program of education in health thru physical training, instruction in hygiene and the biologic sciences. The moral values of military training, usually regarded as self-control, recognition of rightful authority, obedience in discipline and a spirit of democracy, should be secured thru the medium of education, or else our system of education stands convicted of failure to impart essential lessons for right living.

Rest Periods.—The consideration of the health of industrial workers has led to the recognition of the hygienic importance of the short day and the six-day week. The demand for an increased output during the war showed conclusively that maximum efforts are more clearly related to the prevention of fatigue than to continuous hours of employment. European

experience has clearly indicated that systematized rest, by the institution of pauses within the day's work, is of considerable importance in heightening the working capacity of employees thru the prevention of pathologic fatigue. The importance of rest periods for industrial workers is clearly set forth in *Research Report*, Number 13, of the National Industrial Conference Board, which, on the basis of the evidence reviewed, points out the value of fixed rest periods at regular intervals within the working spell, altho this practice constitutes the exception rather than the rule in American establishments.

It is obvious that rest periods, as a device for removing temporary fatigue, do not suffice as a hygienic measure to render unnecessary such fundamental requirements as adequate heating, lighting, ventilation, the installation of labor-saving devices, and the adjustment of the worker to his environment. The desirability and necessity for rest periods patently varies in occupations and for special processes within the same industrial fields. Laying aside any economic advantages from the standpoint of production, and viewed as a hygienic measure, their utility and worth must be determined in relation to the character of the process served. Rest periods have been found especially necessary for workers engaged on repetitive tasks requiring constant and close application. Hence, workers, in a sense, geared to automatic machines are saved physical strain thru this medium. Incidentally, the rest period affords an excellent opportunity for improving general shop discipline and promotes the cultivation of regular habits with reference to food, water drinking, and the use of toilets, thus materially assisting in the preservation of normal physiologic activity.

Rest periods, from five to fifteen minutes in length in the middle of the forenoon, and the middle of the afternoon, appear to secure better results than longer and less frequent recesses from work, but obviously, both the length and the distribution of the rest periods must be adapted to occupational and individual variations.

The studies of fatigue by Mosso, Agden, Gilbreth, Thorndike, together with the reports of the Health of Munition Workers Committee, and the excellent investigations of Lee, Franz, Goldmark and others, clearly demonstrate the importance of safeguarding workers from industrial fatigue by easing the tension of employment thru the institution of rest periods. Fatigue has been defined by Florence (Use of Factory Statistics for the Investigation of Industrial Fatigue,) "as a diminution of working capacity caused by the length or intensity of some activity at a gainful occupation."

The symptoms of fatigue are, of course, exceedingly variable, and may appear in the form of diminished concentration, reduced acuity of vision or hearing, a lowered power of muscular control, delayed reactions, lowered vitality, insomnia and general sub-standard health. While these may appear as marks of temporary fatigue, an accumulation of efforts results in the development of a chronic fatigue state, lowering resistance and predisposing workers to a large number of industrial diseases and accidents, or, indeed, to greater susceptibility to rheumatism, tuberculosis, and similar conditions. As Gilbreth has stated, the slogan for eliminating the evils of overfatigue is "time to rest when one needs it."

By many, rest periods have been deemed essential only for women workers, but all the facts adduced make it patent that rest

pauses are requisite for men as well as women. The Health of Munition Workers Committee and the experience of other countries have pointed out the necessity for regular rest periods for "occupations monotonous in character or requiring prolonged and intense concentration of attention."

"Occupations enforcing either a continuous sitting or a continuous standing posture."

"Occupations involving severe physical exertion."

"Occupations exposing the workers to extreme heat or gases or other unfavorable ventilating arrangements."

The virtue of rest pauses need not be emphasized, save in so far as our American industrial establishments have failed to appreciate their true place in the protection of the health of workers. The necessity for the development of measures to eliminate fatigue is evident, and the British Health of Munition Workers Committee states: "Fatigue should be detected and its causes dealt with while it is still latent and before it becomes excessive."

It is reasonable to demand that conditions in industry should be such that symptoms of chronic fatigue should not appear. The knowledge, therefore, that rest periods serve to postpone or eliminate industrial fatigue creates an imperative reason for their adoption. This should obtain not merely in ordinary forms of industry requiring heavy labor, monotonous employment, long hours, or exposure to hazards of pressure, heat, moisture, gases, dusts, etc., but in every field of human labor where modern industrial conditions of strain and pressure exist. Fatigue should not be classed as an inherent hazard of occupation. Rest is not merely an antidote for overactivity, it is in a sense an immunizing agent against overactivity.



Disabled Veterans and the Bonus.—

There is something so grotesque and ironical in the pompous proposal to grant a bonus to all who saw service in the war that any citizen with a sense of humor and half a dram of grey matter under his hat must blink in astonishment at the incredibility of the whole comic opera episode. The gentlemen responsible for the proposal, with a lavish gesture that bespeaks their unstinting generosity, and with an eye to the calendar and the first Tuesday after the first Monday next November, magnanimously offer a trifle of several hundred millions out of the pockets of the public as a gift to four million youths who already have their reward in the knowledge that they served their country bravely and loyally. "You saved the world for Democracy," these gentlemen say, "and we want to pay you once more." These generous words are printed in the daily papers, and the papers are circulated over the face of the country. Some of these find their way into the hospitals and there they are read by some thousands of men, still in khaki (if they are not bed cases)—men who gave their health and their wellbeing in answering the call of their country. Other papers find their way into modest homes, where a legless or an armless or a blind veteran, whom these gentlemen promise so much, may read them. And these veterans read—and wince! The public knows how well these unfortunate heroes have been treated, knows how wisely the millions that were voted to redeem them have been spent! Of all the hundreds of thousands of disabled veterans waiting for an opportunity to avail themselves of the government's offer of education and rehabilitation, only a mere handful have survived the "red tape" and ponderous details which have proved such a disgrace to a country whose proud boast it is that it never forgets those who serve it. Others are either still hoping against hope that they may be remembered, or have disconsolately surrendered themselves to

their none too rosy future. The knowledge of innumerable disheartening cases has come to the public thru repeated appeals in the daily papers, letters, protests, complaints, from both veterans and disgusted citizens. In view of all this dismal history of the treatment of our wounded the offer of an indiscriminate bonus to all, whether they need it or not, is grotesque.

It is to the credit of ex-service men that so many have expressed themselves as firmly opposed to such a measure. Some, with good reason, regard the offer as an insult to their patriotism, a bribe to their civic obligation. They feel that the army pay which they received was not a salary for their service, and they assert that victory was an ample reward. Others have expressed themselves against the offer of a bonus because they do not require it. They are not in need, they have come back to their jobs at better salaries, and any money granted them would simply be spent in extravagance and folly. They rightly feel that, at a time when the country's finances are strained almost to the limit, it would be folly and needless waste to indulge in such meaningless and unimaginative generosity. That is putting the case mildly, and they put it thus mildly only because they are, as a whole, too innocent to see any connection between the approaching election and the proposed measure. The move may be good politics according to the old standard, but, in view of the aroused public which is now aware of the hideous wrong done our disabled veterans, it would be far better politics—and far finer magnanimity—to give a little more money and a little more thought to those who stand in real need of both: the neglected fighters who are awaiting the modest privilege of being restored to the active citizenship which they have so richly earned.

Old Clothes and Lunch Baskets.—The revolt against the high cost of living, expressed in the nation-wide formation of "old-clothes leagues," "overalls clubs," and "lunchbasket clubs," is highly significant in that it is the first indication of protest to come from a class which has been a silent and patient sufferer during all the clashes that have taken place between capital and labor in recent years. It is not the worker nor the employer who is grum-

bling now: it is the professional man, the vast middle class, the doctor, the lawyer, the teacher, the educator, the writer. This vast and substantial middle class, which is never consulted in a dispute between the upper and the lower strata and which has been ground between the wheels of progress for generations without making itself heard, is at last becoming articulate. It is this class which has paid for every strike, it is this class which pays out of its pockets the increase in wages which the laborer wins, the increase in the cost of food or clothing or railroad fare which the employing classes effect. The street-car conductors strike, higher wages are granted—but the stockholders lose nothing; the innocent middle class must pay. Cloakmakers strike, they win an increase in pay—their employers do not yield a penny of profit; the vast and innocent middle class must pay more for the coat on its back. So it is with food, with furniture, with rent, with all the necessities of life. These have increased in recent years in some instances more than 100%. The laborer, however, does not feel the pinch so seriously. His pay has in many cases increased more than that. But the doctor's income, the teacher's salary, the writer's earnings have in no way increased. They are earning what they did ten years ago, and they are paying twice as much for everything as they did then.

At last they have broken their silence and have announced that they are sick of being mulcted, of paying the bills for every dispute between capital and labor. It is the professional men who are responding to the nation-wide call to form "overalls clubs" and other organizations to intimidate the merciless profiteer and force his prices down. It is said that labor frowns on the movement. Naturally. A reduction in the price of clothes would mean a reduction in clothesmakers' wages. For once, the vast middle class has steeled itself against such pleas. It will no longer yield to sentiment and—"be the goat." If somebody is going to get hurt, so much the worse for somebody. No one ever raised a voice in defence of the professional man when a 100% tax was levied on his inelastic income. No one ever stirred a body of strikers to tears with a plea to spare the middle class that would have to pay the bill if the strikers won. For the first time this class, long-suffering and meek, has come to realize its

power. It is high time. This vast multitude, organized for the first time and united by a common instinct to preserve itself, has struck terror into the hearts of both labor and capital. It has discovered that it is a force that has to be reckoned with, that can command and will be heard. And it means to use its newly-discovered power.

Already reports are coming in to the effect that clothing dealers, in a panic, are reducing prices. And it is well. The "lunchbasket leagues" will undoubtedly be just as effective. But to these a warning word should be given. There is danger here that health may be jeopardized by ill-advised experiments in saving on food. Care should be taken that the crusaders be not misled by their ardor to fill their baskets with food that is not sufficiently nourishing. There can be economy without dangerous experiment, and it would be well for the lunchbasketers to unite and employ a specialist to devise a menu that will prove sustaining as well as cheap. This they could do at very little cost. It is not only a measure which would go far to assure real and substantial economy, but one which would very definitely contribute to, as well as safeguard their health.

Surveillance of the Insane.—After the first shock, shared by both the profession and the laity, on learning of the tragic and untimely death of Dr. James Wright Markoe, at the hand of an insane printer while passing the collection plate in St. George's Episcopal Church, in New York, opinion is converging upon the startlingly lax methods pursued in the surveillance of our insane, and amazement is expressed that the recent tragedy is not a matter of more frequent occurrence in view of this laxity. The circumstances surrounding the unfortunate episode speak more eloquently than a sermon. Thomas W. Simpkin, a journeyman printer, had on several occasions been adjudged a paranoiac, had been committed to insane asylums, and had five times escaped from such institutions. His conduct and his conversation since his arrest confirm the judgment that he was not only a paranoiac, but a far from harmless one. Dr. Markoe, highly esteemed by his colleagues, holding a high place in the affections of his numerous friends, met his death in a church. Of all places, insecure as our grip on this mortal existence is, a church is assuredly the

last place one would associate with violence or bloodshed. While Dr. Markoe was reaching the collection plate toward a row of pews, a total stranger to himself and the people about him rose, leveled a revolver, and fired. Death came instantly. An innocent man fell without an opportunity to defend himself, and an esteemed citizen passed away at the whim of a madman. If the man guilty of this hideous crime had had no history, if his diabolical impulse had come suddenly, without any warning to himself or those who knew him, as the result of a nervous collapse which had given no indication of its imminence, the episode would have to be accepted, however regretfully, as one of the unavoidable accidents of life. But the assailant had a definite and unmistakable history, and his repeated commitments to hospitals for the insane clearly show that he was regarded as a menace not only to himself, but to the community. And yet, by his own acknowledgment, he traveled about in this country and Canada undisturbed.

This instance stands out conspicuously because of the conspicuous tragedy in which it ended, but there are numerous cases of a similar degree of laxity in the surveillance of insane individuals which do not come so swiftly and so emphatically to public knowledge. In any case, the knowledge, if it does come at all, comes too late. There have been innumerable instances of paranoiacs who have committed violence and murder and who during their trials made pleas of insanity as their defence. During the trial they generally are able to show such a quick recovery, that the insanity is regarded as a momentary one which has passed, and in not a few cases the guilty one is restored to full citizenship and freedom. All this in spite of the fact that it is well known to the profession and to no inconsiderable number of the laity that such crises in the lives of paranoiacs are more than apt to repeat themselves and that releasing the individual is little less than an invitation to further violence. There is a disposition among the public and the authorities to treat such cases with a laxity that is mistaken for humaneness. It is a reaction from the old days when the insane were considered the common sport of the masses, when idiots and imbeciles, as in the times of Queen Elizabeth, were engaged as jesters and entertainers. But our hu-

manity has led us astray, for our seeming generosity toward a weaker fellow merely means our cruelty to innumerable others. There is only one course open in such cases, not a course of retribution and vindictiveness against an individual who is not morally responsible for his actions, but a measure of restraint and surveillance which is as much for the good of the individual concerned as for the community. Paranoiacs and persons who have given definite indications of mental unsoundness should be more carefully watched and, if they are not considered actually dangerous, their potential capacity for mischief should not be discounted. However slight the hazard, it should not be risked merely because of an absurdly conscientious fear of restricting one individual's liberty. The tragedy of Dr. Markoe's death should bring home forcibly the lesson of the danger in allowing borderline cases to mingle with their fellows without strict surveillance.

A Modern Ponce de Leon.—Much interest is attached to the investigations of Dr. Serge Voronoff, director of the Physio-



logical Laboratory of the College of France, who startled the world recently by announcing that he could give youth to the aged and prolong life by the simple process of grafting new interstitial glands on old bodies. Dr. Voronoff is now continuing his experiments, using animals in his work. His results from the use of

certain glands from goats and monkeys have been particularly noteworthy and it is hoped that much valuable information will be derived from his researches.

In giving Voronoff all credit for what he has accomplished it should be remembered that the pioneer in this field of investigation was our own Lydston, whose work antedates Voronoff's by several years. It is an unfortunate fact that the American people, particularly those in professional circles, are prone to overlook or depreciate the discoveries of their countrymen while heralding with enthusiasm those of foreign workers in similar fields of research. Under no circumstances would we intimate that

the contributions of scientists in other lands should be ignored or slighted; or that those of investigators of our own nationality should be unduly exalted. But as discoveries are announced and progress is made in different lines of human activity, let us not be so ready to acclaim those from abroad that we will totally ignore those "made in America." On the contrary, let us give to each, no matter what its source, the recognition and honor it deserves, never allowing the brilliance of a new achievement to blind us to what has already been accomplished by previous workers in the same direction.

General Anesthesia Without Loss of Consciousness.

—Dr. James H. Cotton, of Toronto, Canada, has recently discovered and developed a new form of ether which entirely eliminates sensation without the loss of consciousness. This ether permits patients to talk and laugh during serious major operations, and it not only entirely eliminates the feeling of nausea, but greatly reduces the tendency to shock, which usually follows the use of ordinary ether.



Dr. Cotton has been working on his ether for a number of years, but as is always the case with any innovation in medicine, many have decried his efforts and scoffed at his claims. If reports are to be credited, Dr. Cotton will have abundant chance to laugh at his detractors, however, for we understand that his ether is proving highly satisfactory.

Georges Carpentier, Ambassador.—The arrival of Georges Carpentier, heavyweight champion of Europe, in this country is of as much significance as a political event as it is a sporting event. This amiable Frenchman, refined, pleasant of face and of manner, comes as an ambassador to heal the wounds and level the misunderstandings that arose between two nations which before the war had the profoundest respect and affection for each other. A frank observer will not deny that the masses in France and the masses in this country are suspicious of each other, nurse a very lively

grudge against each other. Discharged soldiers of the American Army assert that they were taken advantage of by the French. The French declare that our doughboys committed many unpardonable indiscretions abroad. Among those better informed, in the upper circles, there is no such misunderstanding. These family quarrels are discounted for what they are worth, and there is as warm a feeling as ever between the two sides. But it is different with the so-called average Frenchman and the average American. Before the war, to announce one's self as an American in Paris was to receive a warm welcome everywhere. A French accent in New York was regarded as an admission card to one's most intimate friendship. Today, an American finds himself at a disadvantage in a café or a department store or a public gathering. And a Frenchman is no better off in New York. In view of this, it is gratifying to observe the warm welcome that was accorded France's idol in New York. Thousands of men and women were at the pier to greet Carpentier. He was fêted and dined and wined (perhaps it was only grape juice) wherever he went. And the average American turns to the sporting page of his newspaper and reads with avidity all the reporter has to say about the marvelous French ex-soldier and boxer. Carpentier's impression of the Americans can only be an agreeable one, perhaps even a flattering one. Some day he will return to Paris. The reports he will bring of his treatment will make an excellent impression on his admirers. Perhaps an American boxer of distinction will visit Paris. The French will not fail to return the courtesy that was shown their own countryman. And much will have been done to bring the two populations together again in mutual trust and mutual admiration. The French and the Americans have too much in common to remain on bad terms for a long time. No one believed that the misunderstanding could last long. Now it is evident that it will disappear sooner than was even hoped. Grievances will be forgotten, quarrels will be made up, the amenities that existed will be restored. And presently a friendship that dates from Lafayette will resume its old warmth. Those who have regretfully observed the estrangement of the two populations will be relieved to see how quickly it vanishes and they will welcome the visit of Georges Carpentier as

that of a popular ambassador, who brings a message that Cousin Pierre is sorry and is willing to make it up with Cousin Jack. And Cousin Jack is not the sort to hold back a friendly hand.

Welfare Measures and the Dark Forces.—It is not alone in the milk industry that the dark forces are active—dark forces as abominable as the worst to be found in the old Russian government. The recent report, issued by the League of Women Voters, alleging the existence of a well organized lobby at Albany, sustained by generous contributions from big business interests and designed to defeat all welfare measures that endanger the existence of private enterprises, points to a condition that is intolerable. This report, the accuracy of which is vouched for by women of the type of Mrs. Frank A. Vanderlip, would indicate that there is a deliberate and well planned organization in existence mobilized to bring about the defeat of certain public health measures, the minimum wage for women workers, and other progressive legislation. And the methods employed to mislead both public and legislators are truly diabolical in their ingenuity. Thus, in order to cast discredit on the effort to bring about an eight-hour day for women workers, the argument is employed that such a limitation would make it impossible for women to compete with men on terms of equality, and the women are urged to fight against their own interests by such specious reasoning. A few intelligent ones will see thru the tricky sophistry of such an argument, but countless women, easily misdirected by conscienceless leaders, will be taken in. Furthermore, the patriotism of the public is appealed to in a most outrageously misleading manner in the effort to defeat other legislation. The American masses are patriotic. They respond to such an appeal perhaps more readily than any other nation. The dark forces, realizing this, have, according to the report, organized patriotic leagues as a weapon to accomplish their ends. Such an accusation, if true, should not go without the severest punishment. The use of the American flag to promote selfish private interests is strictly forbidden by law. The law should intercede just as emphatically and effectively to stop the fraudulent manipulation of the patriotic impulse that exists in every American to promote selfish private

interests. If Mrs. Vanderlip's exposure is based on fact, then there should be an immediate investigation. The report is in the hands of Governor Smith, who, it is said, promises an early inquiry. It is to be hoped that this inquiry will not be delayed. Thus far, the denials and public statements of those involved have been unconvincing and unsatisfactory. They have been almost contemptuous in their brevity and their refusal to acknowledge their responsibility to the public. Once it was considered a shrewd trick to wave an American flag at the end of a poor theatrical performance and thus gain a few handclaps which otherwise would not be forthcoming. The public has discouraged such tactics and the trick has passed into disrepute. Appeals to support a bad cause on the ground of patriotism should meet with equally emphatic discouragement. The danger in such appeals is not only that they serve selfish ends but that they may bring into disrepute one of the healthiest of social forces, patriotism. The boy who cried "Wolf!" too often exposed himself to danger when there was real need for protection, but he also exposed his fellows to danger because they came to regard his appeals as without foundation. It would be a sad state of affairs if the public, misled by stirring appeals to their love of their country, ever came to regard them as trivial and negligible. There may come a time when there is real need for display of devotion to one's country, and no nation is secure if this devotion cannot be counted upon to give a prompt and loyal response. It was the inherent *amour patriae* of the French, the British and the Americans that effected such faithful cooperation during the war. Without it, the Germans would have conquered the world. Some day it may be just as necessary to appeal to the patriotic impulse that is inherent in every man. And it is criminal to undermine this impulse by frequent and ill-advised appeals which awaken only distrust. A more serious offense against the national security is hard to conceive, and no time should be lost in investigating the charges of the League.

The Real Thing in Open-Air Cures.—For a long time the value of outdoor living has been recognized, especially in the treatment of pulmonary tuberculosis.

Recently the treatment has been carried out to new and extreme degrees of thoroughness, patients being schooled not only to forego all housing and shelter, but gradually to remove all clothing until practically complete nakedness is attained. This treatment, known as the Rollier Sun Cure, is employed chiefly in tuberculous affections of the bones and joints, and is being administered with unusually gratifying results at the J. N. Adam Memorial Hospital, Perrysburgh, N. Y.

the road to recovery.

The photo on our front cover this month shows a fully acclimated patient, apparently unconcerned by surrounding snow piles, taking the open-air sun cure.

As a means of coping with the high cost of living, it would seem that a few weeks or months spent by the average individual in thus acquiring the ability to do without clothes, except those demanded by common modesty, would be even more effective than the adoption of overalls. The Indians got



(Copyright Underwood & Underwood, N. Y.)

Another picture (see front cover) showing patients undergoing the Rollier Open-Air Sun Cure at the J. N. Adam Memorial Hospital, Perrysburgh, N. Y.

On arrival at the institution patients are carefully and snugly covered, and with nothing but mouth and nose exposed, placed out in the open and kept there night and day, regardless of zero weather, rainy and inclement days excepted.

Day after day finds a little more clothing removed and more and more of the patient's body exposed to the open air, until at last their naked bodies can withstand prolonged exposure to wintry blasts. After a few months of such treatment the tuberculosis patient's skin takes on a coating similar to that of an elephant's hide, and before another short period elapses, they are well on

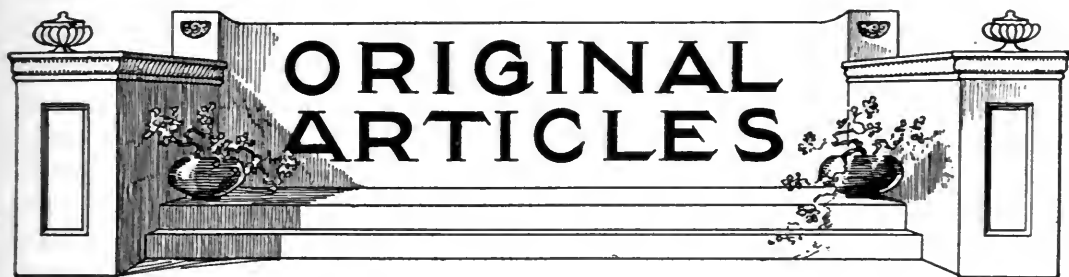
along very well, with only a breech-clout, and suffered little if any in even the coldest weather. One thing is certain, they enjoyed the best of health and tuberculosis was unknown among them.

We very much fear, however, that the breech-clout will never become popular, with all its advantages from health and economic standpoints.

Why?

Well, let any one picture in his mind's eye the appearance a large proportion of our people would present today if the clothesless custom was adopted generally.

Need more be said?



RESEARCH FOR CURE AND PREVENTION—THE PUBLIC MIND AND HOSPITALS FOR THE INSANE.

BY

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Chicago, Ill.

Research and culture are unpopular terms because of abuse. There are no courses of study in our universities and colleges designed to discover to the neophyte of medicine the history of past conquests of disease and the fields of unconquered disease open to scientific assault. Where the history of medicine is pursued, the motive is of boastful adulation of group achievement rather than intelligent preparation for new adventure. The object is the cultivation of a class spirit and professional homogeneity, and not a recognition of a duty on the part of the student to undertake the conquest of a disease or the advancement of human efficiency. The history of medicine acquires a new interest when it becomes the chart of research over which the continents of human endeavor are to be explored.

The study of law is essentially the study of the history of legislation, from Hammurabi to Napoleon, from Moses to Brandeis, from Blackstone to Wigmore.

The direction of future professional opinion in medical affairs can be influenced by a systematic investigation in our profes-

sional schools, of the methods by which the problems of various diseases have been attacked and solved in the past. In such a course, which might be conducted as a seminar, one student would present the results of his library study of erysipelas. He would make his presentation dramatic by giving the very words of the ancient surgeons, as well as the actual statistics of the hospitals. This student should report his reading and study orally and extemporize from time to time, and answer criticisms and questions from the teacher and members of the class. Another student should have the history of the recognition and conquest of typhoid to present in the same way; while beri-beri, plague, syphilis, hook-worm disease, sleeping sickness, and yellow fever, for example, should be studied and presented under the guidance of the teacher, by one or more students for each. The teacher himself will be surprised at the remarkable analogy which the various studies will discover.

It will appear quite early in these studies, that advances have rarely been made by the persons or in the places of great authority. Smallpox, for example, did not come under control thru the efforts of the leaders in medicine nor thru the investigations promoted by them. There was no £10,000 offered for the conquest of this disease, as there was for the perfection of the

chronometer.¹ The same may be said for the wound infections. It was not the official faculties of surgery that developed antiseptic methods or a rational demonstration of the causes of hospital gangrene, erysipelas, and suppuration with their "laudable pus," nor was it accomplished under the influence of any Parliamentary, public, or private grant or promised reward offered at the petition or instance of those in professional authority. Pasteur and Lister placed gratuitously before the world the antiseptic method of wound treatment in ample time for its use in the Franco-German War of 1870. No lesson is more enlightening than that of the history of the typhoid conquest. During the very period that great rewards were being offered for the prevention or cure of hog cholera, and the Department of Agriculture and the various agricultural experiment stations were spending millions (more than twenty millions annually) on the investigation of diseases of animals and plants, more than 35,000 people were dying in the northern United States of typhoid fever and the cause of the disease was still in dispute. There were at the same time not less than 210,000 citizens sick but recovering each year from the same disease after a period of from six weeks to six months morbidity. During more than half of each year, a fourth of the beds of every hospital then existing were filled with the maladies that follow typhoid. The expense of this loathsome filth-disease was enormous, and far in excess of that of hog cholera so munificently pursued. It consisted in loss of earning power of 250,000 patients for a period of from three to six months each, of the care of these patients in the home or in the hos-

pital, and in the morbidity and diminished efficiency of the 2,000,000 who survived the disease every ten years. Yet no appropriations were ever made by any state legislature for the conquest of this disease, nor did any medical society or professional body ever ask for experiment stations to be as solicitous for the health of our citizens as our forty-eight agricultural experiment stations are for the health of animals and plants. Our Department of Health, our legislature's official advisors, have never importuned any one of our forty-eight legislatures for the establishment of experimental stations for the promotion of human health. In fact, a rather extensive correspondence with Health Officers has discovered the fact that they look upon quarantine and inspection as the limit of the Department's function.

Yellow fever and cholera were once the care of the Marine Hospital Service, and quarantine was its "Chetney Hill." When it was necessary for the United States army to occupy Cuba, the conquest of the Spanish forces was less essential than the conquest of yellow fever. No researches into its cause or methods of prevention had ever been undertaken or prosecuted as a function of the Marine Hospital Service, nor had Congress been importuned for funds for this purpose; but the medical department of the army, smarting under the official and public criticism of ravages of typhoid fever in the training camps, listened to the teachings of medical history and instituted a research into the cause, cure, and prevention of yellow fever, which was rewarded within eighteen months with success. The building of the Panama Canal demonstrated the completeness of that research, and we now have a Public Health Service and no Marine Hospital Service, and quarantine is abandoned.

¹ This was the least of three prizes for a sea-going chronometer, awarded to John Harrison in 1773.

The most remarkable research undertaken and carried out to a finality in the last decade, has been the unprecedented investigations of the symptoms of heart disease, carried on by Sir James Mackenzie and his disciple Thomas Lewis. His opportunities for research would have been pronounced inadequate or impossible, yet he utilized them in a perfectly novel, convincing, and practical way. He attacked a most unlikely problem, and solved it, to the amazement of the whole medical and physiologic world. The heart specialist, the pathologist, and the physiologist fussed around the heart, unsuspecting of the very existence of the problem. The opportunity which Mackenzie had, in a large local practice, of observing the individual from birth to death, and the post mortem or autopsy developed the problem which his ingenuity solved. In the piping times of specialists, the specialist was blind to the greatest problem which confronted him, until it was solved by the despised general practitioner.

It was the same with beri-beri in the Japanese army and navy, with the plague in the Orient, and with malaria in the Dutch colonies. The officers and the organized specialists were blind, unmindful, or pessimistic as to researches for prevention and cure, while they were alert and noisy even, for the extension of administration and palliation. Our Board of Health and our new Public Health Service are all active in administration, but lethargic in research or experiment for conquest, cure, and prevention.

It does not seem to be unfair to say that administrative bodies and professional authorities are generally incapacitated to judge of the value of research which, if successful, would diminish or abolish the condition upon which their authority or administration is exerted.

Perhaps a correction of such administrative and authoritative inhibition of progress could be initiated by building up an authoritative professional opinion, thru the establishment of a department of history of medical progress (or of the progress of science) in our schools and universities. Research can never be appreciated by administration. Administration seeks in a most natural manner the extension of its own function. It cripples just as naturally any effort looking toward the displacement of its activities or the making of them unnecessary.

In the United States, the care of the insane is left to the forty-eight individual states. With each state the form of administration varies. Beginning with as many local boards as there are institutions, concentration of authority has increased to single State Commissions or even single individual directors. Local personal responsibility has been merged in a central, unapproachable bureau. But these changes in the organization of the powers of authority, and responsibility have not been attended by any change in the *esprit de corps* toward research into the cause of the insanities. The appropriations of the state of New York for the custody of the 38,000 insane in their institutions are more than \$8,000,000 a year; while the only place in the state where the least show of research could be expected is the Psychiatric Institute, with \$25,000 a year and a burden of routine and service work which this amount poorly provides for. A new hospital, to cost several million, is consuming the attention of the Board.¹

There is one disease, of unknown etiology

¹ Horatio M. Pollock in his statistical study recommended to the Board the expenditure of \$100,000 a year for research into the cause, cure and prevention of dementia præcox until the conquest was complete.

gy and pathogenesis, which furnishes 21,070 of the 38,000 inmates of the asylums of New York, and which the all-powerful Board has made no provision to investigate with a view to prevention or cure. It was the same with the U. S. Quarantine Service and yellow fever for fifty years. It is not to be held against the New York State Commissioners, that they are not alert for the discovery of the cause of dementia præcox, which keeps three-fifths of the beds in their hospitals full. In mentioning New York we seek no exception, but the most conspicuous example. No other state has so large a population and no other state has a more concentrated authority and responsibility. No legislature is more liberal toward the so-called charitable institutions than that of New York. We can hardly expect funds to be thrust by a legislature upon a Board, for an undertaking which they do not demand. Massachusetts, Pennsylvania, Michigan, and Illinois have somewhat differently organized administration, but make no provision for potent, concentrated, and unburdened research. Massachusetts has a few workers who steal time from service for broken investigation. Illinois has a double-headed Psychopathic Institution, with a total appropriation of a third of a million dollars for two years, so apportioned that not one cent can be expended in investigation into the cause, the possibility of cure or of prevention, of any form of insanity.

It appears, from the history and from the present condition of the administration of the institutions for the insane in the forty-eight states and under the army and navy medical bodies and the Public Health Service, that research into cause, cure, and prevention of any one of the insanities is not

to be expected from an administrative body. The experience of the world does not seem to question this generalization. There is incompatibility, if not conflict, between the administration of the custody of the insane and research into the cause, cure, and prevention of any insanity.

We are initiating into our most conservative democracy a new branch of federal activity. There has been established in permanent form in Washington, a body of scientific investigators temporarily found necessary in the emergency of war. These researchers were expected to use their knowledge, skill, and cunning in devising new means and methods of destroying the life of the enemy. It may be that in these droning times of peace the permanent organization may investigate the possibilities of life of our citizens and the prevention of that great destroyer, insanity. Already the industrial promoters are importuning the new organization for investigations into methods and appliances to promote their manufactures and trades, and the investigators in the various departments of government are undergoing integration.

It is a remarkable fact that, in the first year after the overthrow of Hohenzollern imperialism, an institution for research into the cause of the insanities should be established at Munich, under Prof. Emil Kraepelin.¹ It is wholly independent, but affiliated with the University and with the Clinic. It serves education and custody, but is subservient to neither.

The English, thru stress of war, have brought their Research Council into active function. The bill for the insurance of

¹ Kraepelin's account in *Dementia Præcox Studies*, Jan., 1920, translated from *Aaturvis-senechaften* June, 1919, p. 333.

laborers against accidents, sickness, and old age provided that a penny on the pound should be set aside for research into the causes, the possibilities of cure and prevention of those conditions for which expenditures under the act were necessary.

It would be good policy and a humane provision for our several state legislatures to appropriate one cent for research for cause, cure, and prevention of the insanities, for every dollar appropriated for custody and confinement.

EPIDEMIC PSYCHISM OR SPIRITISM.

BY

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The human intellect is susceptible to impressions from external sources and is not entirely emancipated from acquired influences. We may boast of knowledge, of science, of an esthetic taste, of a higher sense of humanity, of culture and of refinement, but deeply seated in the economy of our mental being is an unstable mind which is influenced by the atmosphere in which we grow and thrive. We do not live in an independent atmosphere established in a purely scientific time, on an absolute scientific physical basis, but in a sphere that is composed of a conglomerated mass of physics and metaphysics inherited from pre-scientific times and miracle-working ages. Every child is raised in the dark ages of mysticism. Our scientific age supplies the external ornamentations, hiding completely the mystic inner part from view. There is no standard of normality and consequently there can be no agreement on slight abnor-

malities. This rather confusive and regrettable disagreement as to the standard of normality acts as a protective cover against many of the follies that human flesh is heir to. The adult mind seems to be merely an infant growing in a fluctuating world. We adhere to the mystic and fairy life of humanity's childhood even in our practical busy manhood, with the pendulum of the intellect swinging to and fro, everlastingly gaining impressions from both extremes regardless of the true nature of our mental acquisition. In our material life we are up to date; in our spiritual life we are antiquated. Our twentieth century body harbors a mind of the dark and middle ages. Thus we pass thru life in these advancing centuries with impressions received from humanity's infancy. We are adults with the mind of a child. Humanity's infancy was of a mystical nature and we are reared, trained and raised in the same mystic atmosphere in our early childhood during our impressionable years. Impressions received in early childhood remain with us apparently forever. The photographic appliance of our visual apparatus, namely, the human eye is constantly receiving images for our visual centers which images are stored in our visual memory center which enables us to communicate with the outer world. Our visual apparatus may as a result of disease become totally disabled thru blindness, yet this inability while it prevents us from acquiring new images does not interfere with the already acquired and stored-up visual impressions. The blind may still see with their mental eye images received and perceived in all their grandeur. What is true of visual impressions is also true of other mental impressions. Mental impressions of childhood rarely if ever fade away completely. They

continue with some modification depending upon our new environment. The change is apparent in the modern hue, but the essence and substance of early impressions linger in our memory and largely dominate our attitude in matters spiritual. As a result of hereditary forces we are mystics and since we have been reared in a mystic environment during childhood we have acquired a susceptibility to mysticism. We lack the mental hygiene to resist the epidemic of mystic waves that now and then sways humanity. We have no power of resistance. As our body is predisposed to epidemic infections, so is our mind predisposed to many of the superstitions current in our lives.

At present our mind is affected by the epidemic of spiritism. It is not an entirely new disease; it has affected mankind in various ages. At present, however, it is more virulent and more contagious. Strange as it may seem the disease has made its appearance in the so-called upper strata of society and its cause is championed by some of the leaders in the religious, literary and scientific world. No one can foretell how rapidly this mental infection will spread. It seems that the Anglo-Saxon race is peculiarly susceptible to this disease. The cause may be traceable to the recent World War which was also followed by several other epidemic diseases. The enormous high mortality that has taken millions of the flower of the youth of the world and for which—after the enthusiasm that prevailed during the war has subsided—no adequate reason could be found, has disturbed the mental balance of mankind and caused the human mind to deviate and turn from physics to metaphysics, from facts to fancies, from the present to the past, from natural events to miracles. During the war patriotism

acted as a pain-relieving agent. But patriotism is a temporary anesthetic and like all anesthetics its effect is temporary and quickly wears off, leaving the sufferer from an irreparable loss in a state of mental anguish, the effect of which becomes more acute as the result obtained is analyzed and found insufficient to compensate for the enormous loss. No solace being found to heal the mental wound in a natural way, the mind already trained as a result of early education in mysticism turns to the supernatural. It is thus easy to understand how the multitude will embrace supernatural ideas in a period of mental confusion, of social, political and religious unrest. Oracles are consulted, consequently oracles are created. The student of history knows this to be a fact. It has been so in the past, it is so in the present and will probably be so in the future as long as the present system of religious education will prevail. One can easily understand the attitude of the multitude to the supernatural, but it is much more difficult to understand the current of mind of those who apparently emancipated themselves from superstitions acquired in childhood. In studying the mentality of these men we must first free ourselves from the idolatry of hero worship. Men great in one direction must not necessarily be normal in other directions. In fact, we must always bear in mind that a brain hyperdeveloped in one thing is apt to show underdevelopment in many other things. A genius on one subject is no authority in other mental processes not directly related to the subject of his greatness. Sudden changes from physics to metaphysics, from the analytical laboratory to the field of mystic speculation are not entirely free from suspicion. One may easily change from detective fiction to

psychic fiction as both these processes belong to the realm of the imagination. The value of his endeavor, however, in this new field is no greater than a child's explanation of various phenomena beyond the grasp of its puerile mentality.

For the sake of study we may recognize three distinct types of the human mind in spiritual or intellectual matter: The progressive, the stagnant and regressive.

1. The progressive mind knows that matters pertaining to the spiritual are subject to changes and must subscribe to a process of evolution. He studies the past so as to be able to judge the present and shape the future. Religious doctrines, beliefs and practices are the indexes of the spiritual mind of the past, and in so far as they give information of the spiritual status of the age they are of great historic and educational value. The past teaches us how to avoid erroneous ideas, how to recognize mistakes and guard against them. But the progressive mind while studying the past has his mental vision focused on the future. He rids himself by a slow process of reasoning of all acquired superstitions until he finally becomes emancipated, and with a clear mind analyzes the various phenomena without having recourse to the old accepted theories. The progressive mind knows the ghost stories of the past. He read all the miracles reported in biblical literature, read about angels, devils and the host of seraphim and cherubim, but having subjected them to the critical analytical powers of his psychic faculty he finds the evidence upon which they are based insufficient and he can not accept them as true but inclines to look upon them as fiction, the product of human imagination. The progressive mind therefore turns from fiction to reality, reason supplants mere belief and insists upon more conclusive evidence.

2. The stagnant mind has no initiative of its own and cannot undertake any critical analysis. This type of man is easily impressed by external forces and readily yields to impressions and believes psychic events recorded as literally true. He, too, went to the school of infancy where fiction has been taught for facts, where ghosts, angels, spirits and devils are spoken of as real entities. He investigates neither extremes but readily believes everything learned in the religious school during childhood. The large majority of mankind harbors this stagnant mind. They can always be relied upon for an audience in matters of spiritism and it is upon these minds that the more aggressive mind plays. This class of human beings is easily impressed and in fact is always looking for the miraculous even in matters of medical science. These are the victims of the mental jugglers.

3. The regressive mind in contradistinction to the stagnant mind is an active mind but unfortunately does not move forward but backward. Men of this type of mentality have no power of projecting new independent ideas but always use their mentality in regressive process. They always endeavor to prove that the old miracles reported in the Bible are literally true. They will employ all modern knowledge in their arguments to prove the verity of biblical supernatural stories. There is doubtless a hereditary influence in these regressive minds. They never enter the sphere of progressive mentality. There is also an atavistic type of regressive mind. This is the type of man who has emancipated himself from early impressions and has entered the sphere of progressive mentality. Men of this type may become leaders in science and

become famous and stay in the progressive sphere up to a limited time when as a result of hereditary influence they reverse the early impressions of mysticism. The brain has used up all its latent progressive force and enters the stage of regression. There is a rebound in the mental elasticity holding it at its childish extremity. The man has no longer power to project himself into the progressive sphere of mentality. The man enters the stage of second childhood when fancy, and not fact, dominates his mentality. There is no doubt that some of the great men expounding spiritism belong to this type of mind. By spiritism as it is used today we mean the claim that mortal man can communicate with departed spirits either directly or thru a medium. I use the word epidemic spiritism to indicate the sudden reappearance and spread of this mental disorder. Recently two schools of spirit communication have developed. The one holds that communication with spirits can only be accomplished thru a medium. The expounder of this system is Sir Oliver Lodge. The other school maintains that mediums are not necessary but that we can communicate with the spirit directly. Both of course assume the existence of the spirit in some form somewhere and that they know what is going on in the world and may be of great help to us. I suppose both these factions find some support in the biblical narratives. The ancient Israelites believed in mediums altho it has been strictly forbidden by Moses. At one time during the reign of Saul it became necessary to rid the country of the pretending mediums and they were all expatriated. Of course the only story of spiritualistic communication thru a medium is found in the book of Samuel where Saul, King of Israel, consulted the witch of Endor to com-

municate with Samuel. The story however is not very convincing. Let us for the sake of argument admit the existence of a spirit incarnate and discarnate. The questions arise: Where is the habitat of this spirit? How does it enter the human body? At what time in embryonic life does the spirit enter the human body? What are the movements, functions and destiny of the departed spirits? Do they retain consciousness? Are they conscious of their surroundings? Are they free agents to act at will, or are they under some supervision? Are they at liberty to communicate with their former associates, or must they wait for permission and orders to revisit this earth? Do they appear in the form of matter as they existed before? Why must they communicate thru a medium? Why are these communications so trivial and so rare? These are questions that are not readily answered by either exponent of spiritism. To us it would appear since we never saw spirits as such that we could never recognize them if they would appear. Whenever we see a spirit we always see it in human form—in the form of matter. This accounts for the fact that all apparitions known appeared in corporeal form. Even the spirit of Conwell's wife appeared in bodily form dressed in her old garment. Now one must ask, how did the spirit regain the bodily form? Where did the spirit regain the bodily form? Where did the spirit get the old garment that was probably destroyed long ago? This would lead us to the conclusion that the apparitions are of our own creation, the product of our imagination. We see the spirit in our consciousness altho the spirit is not present, by a process of mental imagery even as we can see other images by the aid of our visual memory, altho these images are really

not present to stimulate our visual apparatus. We must look upon the so-called spiritism as a disturbed mentality which at present appears in epidemic form. All epidemics today are attributable to natural causes. Those affected have a lessened power of resistance and are susceptible to the disease. There are those who are susceptible to the physical epidemic conditions, while others are susceptible to mental epidemic conditions. This form of epidemic can be cured or prevented by mental hygiene. Like all epidemic diseases this disease is also self-limited. It seems that the Anglo-Saxon is most susceptible to this epidemic. As a result of the great war we suffer from two forms of mental diseases: The one is Bolshevism, the other spiritism. The one affects the vanquished the other the victors. The Slavic and Germanic races become the victims of the one. The Anglo-Saxon race is becoming the victim of the other. The one disturbs the mental and the other the governmental equilibrium. Bolshevism is the result of poverty and is curable. It will readjust itself as production is increased and the material growth of the community is enhanced. But this epidemic spiritism appears in places of prosperity, of material progress where idols and oracles are consulted as a result of some disturbed mentality. It will require a strong antidote to re-establish the mental balance of the Anglo-Saxon race and prevent their degeneration and return to the early ages of mysticism.

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Chronic Cases.—When adjustment of pelvic articulations fail to relieve symptoms in chronic cases, Lund (*Boston Med. and Surg. Jour.*) says to remember the possibility of tumors on the anterior surface of the sacrum. These are discoverable by rectal palpation.

SYMMETRICALLY OCCURRING VENTRICULAR EXTRA SYSTOLES AND THEIR RELATION TO A SLOW PULSE.

BY

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Unquestionably there is no detail or phase of heart work more interesting than electrocardiology.

There is no phenomenon more puzzling than an unusually low pulse count in a person who is apparently perfectly well in other respects. The electrocardiogram of a few such pulses are shown and are to be explained as follows:

Each of these came under our notice as examples of very low pulse, but examination showed them to be symmetrically occurring ventricular extra systoles, in which every other normal pulse beat was replaced by a premature contraction.

Of course, the most interesting point in these examples of irregular pulse is the symmetrical recurrence of the irregularity, the extra beat not reaching the pulse at all, or else in such feeble form as not to be ordinarily noticed.

There are other points in this group that are worthy of notice. One is that when the irregularity takes on this symmetrical form it seems to mean that a new center for the heart beat has been started, and as a rule it has turned out that these people have lived for a long time with very little inconvenience. There is no fundamental disorder of the mechanism from which the normal heart beat comes, it being simply

relieved of every alternating beat by the beat which has its origin in the ventricle. The moment the ectopic beat stops the normal pacemaker takes up its work as if nothing had happened.

is very slow. The point of interest is that extra systoles can occur with symmetrical regularity and cause a heart to be accused of being very slow when in fact all the beats are there, but every alternate beat is

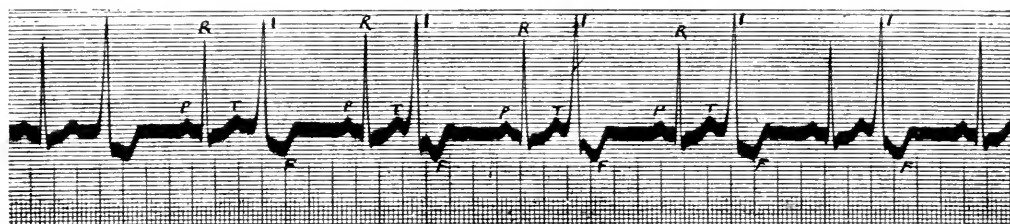


FIG. 1. Taken by lead 2. After the waves P, due to the auricular contraction, and R and T, due to a normal ventricular contraction, are seen the larger waves I and F, due to a premature contraction of the ventricles, starting within the ventricle itself. These waves occur regularly, coming almost immediately after each normal beat. The ventricular lines at the bottom of the cardiogram represent $\frac{1}{25}$ of a second's time and are produced by the time marker.

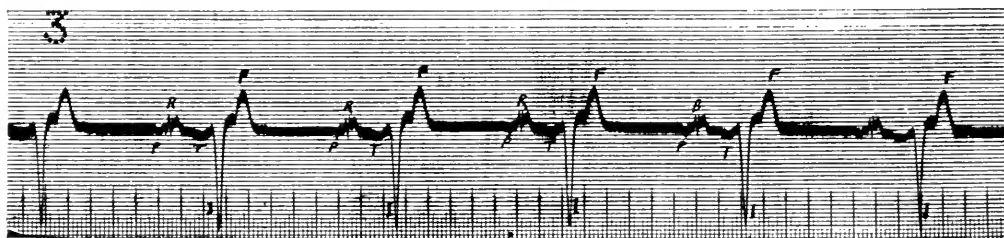


FIG. 2. Taken by lead 3. This shows the same thing as FIG. 1, but in this record the P and T waves are directed downward instead of upward, and the R wave is very small. The large waves, due to a premature ventricular contraction, are in the opposite direction to the waves of FIG. 1, showing that this contraction started in a different place in the ventricle, probably nearer the apex.

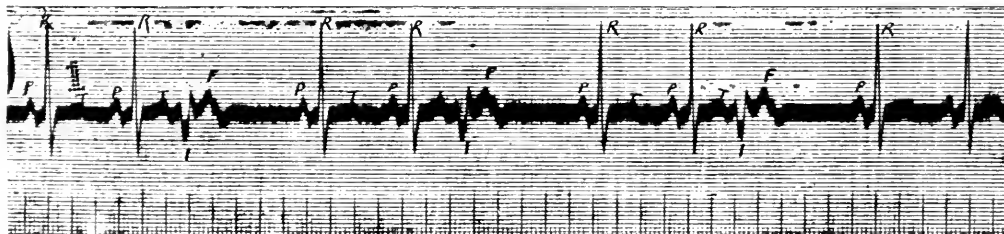


FIG. 3. Taken by lead 1. This record shows a premature ventricular contraction occurring after every second of the normal heart beat. In this record the waves I of the premature beat are directed downward and the waves F upward, as in FIG. 2, but their size is much smaller. The size has no significance, for if the waves are small in one lead they are large in another.

This is a very different matter from true heart block, where the impulse never reaches the ventricle, or true bradycardia, in which the natural pacemaker of the heart

a premature beat, which does not reach the wrist. The heart rate should always be counted at the heart itself and not at the radial pulse.

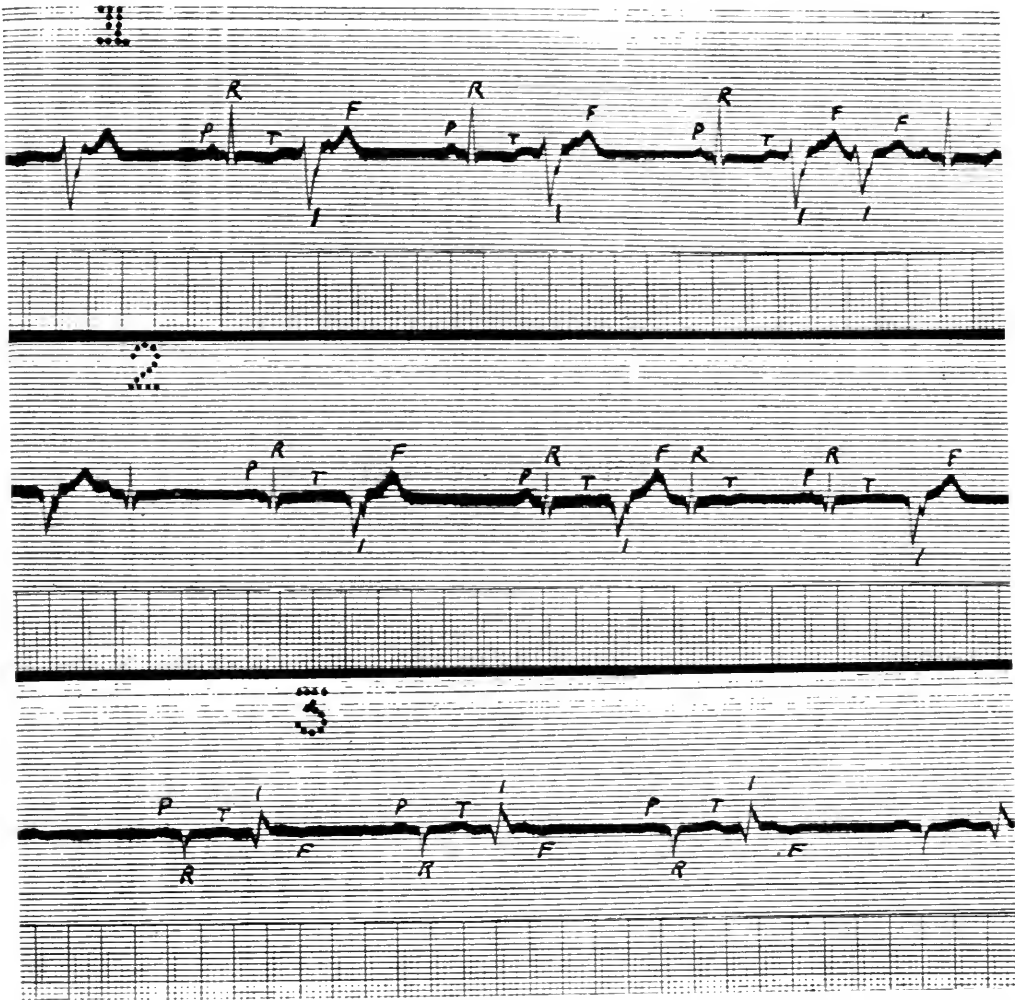


FIG. 4. This record shows all three leads of the electrocardiogram of a person in whom the premature beats were followed either after every one of the normal beats or after every second normal beat, altho the waves I and F are small in lead 3 they are quite large in lead 1.

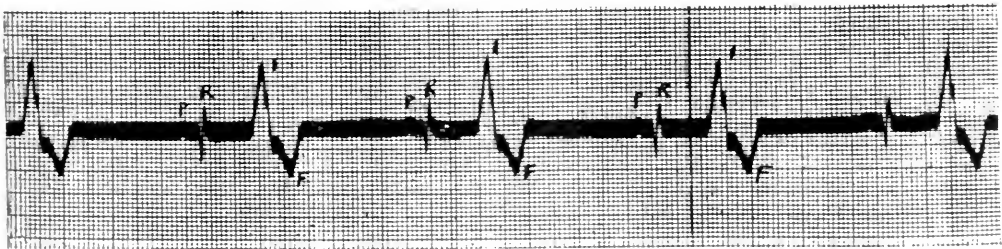


FIG. 5. Shows the same things as FIG. 1, the only difference being that the heart rate is slower.

In the illustrations the natural beat is the small beat and the premature beat is the very large beat frequently showing reversed electrical currents. This excessive energy shown in the electrocardiogram as coming when there is a premature beat may be accounted for by the fact that it happens at a time when the ventricle was, as it were, contracting on nothing. If you are coming downstairs and think you have reached the bottom, when you haven't, you are apt to come down with an awful jar. The ventricle, in the same way, taking a misstep, expends a lot of energy without doing any effective work.

In the natural electrocardiogram there is shown a small mound representing the contraction of the auricle, the church steeple representing the contraction of the ventricle and the little mountain beyond representing the further work of the ventricle, which expels the blood into the circulation. In the premature beats there is no little mound because the auricle did not contract before the ventricle, the beat starting in the ventricle itself, and the church steeple and the mound are very big because this futile, partial heart beat was violent, not having any blood to work on.

It may be interesting to note that one of these people whose heart beat is pictured here was sent from South America to us as a supposed example of heart block.

A Function of the Internal Secretion of the Thymus.—Muller found that exhausted muscles in experiment animals—frogs, rabbits, etc., were restored to vigor by thymus injections (*Le Progres Medical*). As between the muscle and its supplying nerve it was evident that the stimulant effect was upon the latter. We already knew that in animals extirpation of the thymus causes myasthenia.

BENIGN TUMORS OF THE LOWER BOWEL.

BY

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At the anus and within the pelvic portion of the colon there develop a variety of tumor growths benign and malignant between which the distinction is not always clear. There are many borderline cases and certain tumors which, tho not themselves destroying life, may cause much misery thru constipation, intestinal obstruction or intussusception besides ulceration and hemorrhage and may in time undergo malignant transformation. Of forty-two such cases collected by Quenu and Landel, twenty of them ended as true cylindrical carcinoma. These rectal tumors are of different anatomical structure, but each resembles the tissues from which it springs. All rectal tumors incline toward the direction of least resistance and, therefore, protrude into lumen of the bowel. Once the mass extends into the intestinal canal it is dragged upon by the passing fecal current and by the straining incident to defecation until its attachment is drawn out into a slender cord or pedicle and a polyp (or polypus) is formed.

Histologically we find that in benign tumors the cellular elements are fully developed and normally arranged, whereas in malignant tumors the cellular elements are irregularly arranged, are imperfectly developed and are found growing outside of their normal sites. Further than this we do not know what inherent qualities or characteristics render one neoplasm benign and another malignant. Tumors of the connective tissues are fibroma, enchondroma, lymph adenoma, lipoma and myxoma. In the mus-

cular structures are the myoma and fibromyoma which are very benign. In the epithelial structures are the adenoma and papilloma. Irregular growths are also found such as cystomas, fungi, vegetations and excrescences.

Papillomata are cauliflower-like, branched and lobulated growths of the epithelium which originate thru the barring of the papillary bodies, by slight injuries and develop in the presence of the favoring elements of heat, moisture and chronic infection. While the influences that give rise to a true papillomata or wart and to a polypus are essentially the same, there is a marked difference in their clinical appearance.

Papillomata occurring on the skin are rough and hard, while those arising from the mucous membrane are very soft and velvety with loose edematous stroma. In both localities because of the constant traumatism they are frequently inflamed or ulcerated. Because of this difference in clinical appearance papillomata will here be considered under two captions:

1. Those occurring on the skin about the anal region.
2. Those occurring within the anal or rectal canal.

Papilloma About the Anal Region.—

Perianal warts, papilloma, vegetations, condyloma or verruca, as they are variously called, are perhaps the most commonly met of all anorectal disorders. They are not particularly serious in themselves, but they are sufficiently obstinate things to treat; and it must be borne in mind that warts, especially in the aged, are always potential foci for malignancy. These growths consist of a hypertrophy of the papillary layer of the skin and are composed of connective tissue and blood vessels, together with a covering of epithelial tissue; they are bright red in color, fragile and liable to bleed freely.

Little warty tumors develop, which rapidly branch and intermingle with the branches of other warts until they form what seems to be one large tumor, but which, when removed, is seen to be attached to the skin by numerous pedicles. The moisture and secretions collect between these ramifications and, as a result of maceration and decomposition, these growths throw off a strongly fetid odor. By contact, all of the surrounding tissue becomes inflamed. According to the exuberance of the growth, various fanciful shapes are assumed, these being described as cockscomb, cauliflower and such like. When the connective tissue is abundant and the epithelial covering is thin, the growth is dry and hard; but when the dermis is thick and the growth soft, it is moist. The moisture and warmth of the parts favor the development, altho an idiosyncrasy exists in stout individuals.

Formerly these growths were considered proof positive of syphilis and sodomy, but, altho they may be associated with syphilitic lesions about these parts, they are not necessarily a sign of lues. The discharge of gonorrhea, leucorrhea, hemorrhoids, proctitis or any other lesion may be the cause. The condition itself is not contagious and is not responsive to antisyphilitic treatment.

The vegetations usually develop during early adult life, but are sometimes seen in infants and the aged. Their development in some persons is rapid and slow in others. In advanced life it is thought they result from degenerative changes in the skin. The growth may consist of a single papilla or it may involve the whole intergluteal area. It may be situated at the anal margin or outward, on the buttock. Often the primary growth begins on one buttock and later affects the opposite cheek. Any kind of irritation would produce the same effect.

The symptoms, therefore, vary with the extent of the growths, their location and the amount of the secretion.

When the growth is large the patient is aware of a foreign body being present between the nates, and he is annoyed by the foul discharges as well as by the fresh abrasions constantly occurring. When the anal margin is involved, defecation causes considerable pain, which may resemble the pain of fissure; there also may ooze out a few drops of blood. Altho, as a rule, these growths develop on the outside skin, they may originate within the rectum.

The differential diagnosis is not difficult, except that it may be mistaken for a mucous patch; its attachment, like that of a shrub, being sufficient to distinguish it. Syphilides have a diffuse infiltrating base and form a broad, flat mass, free from any tendency to pedunculation. Malignant growths are deep seated on an indurated base and tend to invade the deeper structures.

Treatment.—Scrupulous cleanliness and the application twice each day of an astringent dusting powder is sometimes all that is needed. In most cases, however, the growths should be clipped off with scissors and hot compresses applied to control the bleeding. If the growth recurs the whole surface should be sprayed with fulguration.

Papilloma or Villous Tumor Arising Within the Rectum.—(See Fig. 1.) These tumors resemble the adenoma closely in histologic structure and in the pathologic course, but differ from that class of growths by being lobulated like a cauliflower with some of the masses ending in a fine lace-like edge. The whole growth is spongy on manipulation. This tumor arises from the surface of the mucous membrane of the bowel and is attached by a broad base thru a short pedicle never more than two inches

long. The growth is flat (plaque-like) and spreads over a wide area and consists of a number of lobes. These lobes, altho they are approximated to each other, are not united, but each has its own pedicle. The pedicles are then attached to each other and into a common base. Each lobe ends in a number of villi or papillæ. The whole tumor may attain a large size (Moffat,¹ of Cape Town, Africa, reported one as large as a human head), is red in color and soft and velvety to the touch.

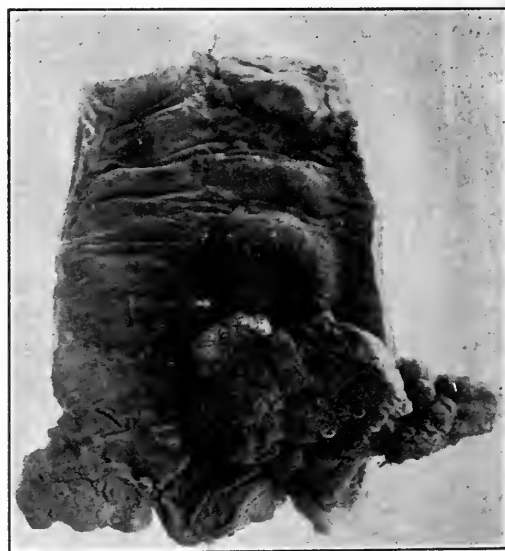


FIG. 1. Papilloma within the rectum.

Symptoms.—Very early in the history of these growths the sufferer notices a free discharge of thick, tenacious, viscid mucus which much resembles the white of an egg. Rectal tenesmus with a frequent and urgent desire to empty the bowels causes this mucus to be involuntarily discharged, thus soiling the clothing and staining the garments a light yellow. This mucus discharge has much the same effect that we might expect from a purulent excretion, the patient is debilitated, palid and loses weight. There is also some loss of blood, but this

symptom varies considerably in different individuals. The hemorrhage may occur only occasionally, or there may be daily oozing, or streaking of the stools or it may drip after each bowel movement, or a profuse hemorrhage may occur which exsanguinates the patient and leaves him in syncope. All of this pathology causes very little pain.

On digital examination the tumors are soft, velvety or mushy and covered with mucus. The examining finger can be worked in between the lobes of the tumor. The attachment is by a broad, flat base, but there is no induration of the surrounding structures and it is, therefore, easily distinguished from the malignant cylindrical cell epithelioma and so-called vegetating epithelioma.

Diagnosis.—Papilloma is to be especially differentiated from adenoma and vegetating carcinoma, which it closely resembles.

The single adenoma is found almost entirely in children, while the papilloma is found in adults and usually in elderly persons. The multiple adenoma with a broad based attachment occurring in adults presents the uncontrollable diarrhea and mucopurulent evacuations instead of the clear, gluey mucus discharge.

Vegetating carcinoma is friable and has a dense induration about its point of attachment.

Case I.—H., age 19 years. Patient noticed a slight pain on defecation about three months previously and on examination discovered a slight protrusion at the anus. This mass has grown larger and more painful until now when sitting on a chair it is tender. She has noticed free blood streaking the stools during the past month. Patient is well developed and well nourished. Local examination reveals a mass about the size of an egg on the anterior edge of the anus growing from a small pedicle. It is cov-

ered with small papillæ. Nothing is felt on internal digital examination of the rectum.

Diagnosis.—Papilloma of the anus.

Treatment.—Tumor was excised at its base and the mucosa closed with fine cat-gut sutures. Recovery complete in one week.

Adenoma.—The adenoma is the most frequently found benign growth in the bowel and it is furthermore found in the rectum more often than in any other part of the intestines. Adenomas develop from the mucous and submucous coats of the bowel and contain all of the elements found in these layers. Adenomas undergo early degenerative changes and frequently after they have been removed there recurs at the site a return of the same kind of a growth or a malignant neoplasm.

The majority of rectal polypii belong to this class and rectal adenomas are so often referred to as polypii that many practitioners consider the terms synonymous. Such, however, is not the case. All polypi are not adenomas, neither are all adenomas polypi. Adenomas undergo hyaline, myxomatous or cystic degeneration, but do not develop metastasis. They are found in all ages, altho those occurring in children differ very much macroscopically, microscopically and clinically from those present in adults. Two different types of adenomas exist: The single adenoma, with the long pedicle usually found in children, and the multiple adenoma, having broad attachments and usually found in adults.

Single Adenoma.—In children there is usually a single adenoma or at most but three or four, varying in size from that of a cherry to perhaps that of a hen's egg, each with a slender pedicle which may measure up to six inches in length, depending upon the size and age of the tumor. If

the mass has been dragged upon for a long while by the bowel trying to expel it, the pedicle becomes stretched and attenuated. The tumor itself much resembles a red raspberry in appearance. It is oval-shaped, bright red, with a rough surface and consists of a preponderance of connective tissue with a small amount of glandular and epithelial structure. This type of adenoma usually occurs in children under twelve



FIG. 2. Single adenoma of colon.

years of age, altho it is sometimes met in adults. (See Fig. 2.)

The single polypoid-shaped tumor occurring in children may be extruded only during acute digestive disturbances accompanied with powerful peristalsis and tenesmus. At other times when retained within the bowel it may cause obscure digestive disturbance with diarrhea. On examination with the

proctoscope the adenoma will often drop into the lumen of the instrument and may be easily removed with a snare rather than clipped off with scissors as by the slow crushing of the snare the intima of the vessels is crushed and there is less danger of hemorrhage resulting. The small stump of the pedicle soon atrophies completely and needs no further attention.

Multiple Adenomas.—This condition is ordinarily a disease of young adult life (Quenu and Landel² report over 50 per cent. occurring between the ages of 20 and 35 years), but it sometimes occurs in children. In the latter two, three or even four separate adenomas may be found with slender pedicles, but such a condition is exceptional of the single adenomas. The clinical course of the single adenoma with the long, slender pedicle is entirely different from that of the multiple adenoma with the short, thick base and moreover the single adenoma of childhood never develops into the multiple adenomas of adult life. The cause of these tumors is not known, altho very interesting theories have been advanced. For example, Huber,³ of New York, has attempted to show that these tumors are a result of a general systemic lymphatic hypertrophy. The sigmoid and rectum are most frequently affected, altho when the tumors are spread over a wide area the whole colon may be affected. There may be several tumors clustered together in one patch of the bowel and a second collection farther up with an intervening portion of healthy mucous membrane between them that is uninvolved. The sites most frequently affected are those at which the feces are accustomed to be arrested and because of this fact it is thought that local irritation and infection by the feces is an exciting cause. Fink⁴ believes that they be-

gin in the rectum and gradually multiply upward.

With the proctoscope the tumors may be seen, their number, general characteristics and the extent of the bowel involved noted. One of the growths may be excised and examined microscopically, but a negative report of one tumor does not determine the character of the others. Three out of four cases of multiple adenomas become malignant sooner or later. Microscopically these tumors are composed of hypertrophied glands and connective tissue covered with cylindrical epithelium.

There is a great variation in the gross appearance of these. In a case seen by the author, an illustration of which is here shown, a number of tumors were found. (See Fig 3.)

The largest one was about the size of a hen's egg, the upper one was as large as a good-sized strawberry, and the small ones between these two were the size of green peas. There were also a number of masses which were palpable in the mucous membrane, but do not show in the picture. In this case the surfaces of tumors were smooth but irregular like the surface of a potato. Other observers have reported cases, the surface of the growth being like a mulberry. Such masses very much resemble villous tumors. The consistency of the adenoma varies much with the proportions in which the connective tissues and the epithelial structures are found. Tuttle⁵ believes that the harder the tumor the more likely it is to undergo carcinomatous transformation. The pedicle is composed of mucous membrane, areola and fibrous tissue and blood vessels and is usually short and thick; never so long as is that of the single adenoma.

Symptoms.—There are four prominent symptoms in all cases of multiple adenoma,

namely, diarrhea, hemorrhage, pain and exhaustion.

The diarrhea which resists all astringent remedies to control is accounted for in part by an associated proctitis or colitis which always is present. The stools are small and contain mucus and also fresh and old blood. If there is much decomposed blood the evacuations are black and disgustingly foul. Occasionally an evacuation may consist



FIG. 3. Multiple adenomas of rectum.

wholly of mucus or blood. The pain differs in degrees, but is somewhat diagnostic of the location and size of the tumor. Adenomas in the colon, sigmoid or upper part of the rectum occasion tenesmus and colic, but those in the ampulla, or lower rectum, may not cause the pain unless they are so large as to cause obstruction. If that occurs the

pain is severe. Prolapse of the rectum may be caused by these growths.

Extra-rectal dermoids occur in the tissues of the rectovaginal septum or of the retrorectal space, and also just beneath the skin between the anus and sacrum. Sometimes one breaks thru the rectal wall and develops as a pedunculated tumor, the pedicle being attached to the tissues in one of these spaces. These dermoids are similar to those which occur elsewhere in the body. They should be dissected out.

Lipoma.—A lipoma is a tumor composed of adipose tissue. When found in the rectum it develops in the submucous layer. It may form a part of the rectal wall or it may be pedunculated. Because of its origin below the mucosa, if the lipoma is removed, its base should be ligated because of the possibility of invagination of the peritoneum into the intestine. Where the tumor forms a part of the rectal wall it should be enucleated thru an elliptical incision and the wound sutured.

Myoma.—Myomas occur as tumors composed wholly of muscular tissue or combined with fibrous tissues. They are nodular in shape and may be pedunculated or imbedded between the submucous and muscular layers. Where the fibrous tissue predominates they are called fibro-myoma. When the myoma is small and imbedded in the rectal wall it may be mistaken for a scirrhus cancer. These growths may be removed thru an incision posterior to the anus, deepened to reach the muscular wall, but not penetrating the mucosa. Such a wound may be closed with sutures. If, however, the tumor is removed thru the mucosa free drainage of the wound must be provided.

Fibroma.—Fibroma in the anus and rectum is rare. It originates in the con-

nective tissue of the submucosa and may attain considerable size. It may remain in the rectal wall or it may become a polypus. The so-called fibrous polypus is a fibroma, but containing also muscular and glandular tissues. It usually continues thru its existence a fibroma, but may degenerate into a sarcoma.

Enchondroma is a still rarer form of connective tissue tumor, and is composed of cartilaginous and fibrous tissues. Only a few rectal enchondroma have been reported.

Diagnosis.—Whenever a diarrhea persists longer than a few days a local examination of the rectum and sigmoid should be made, when adenoids, if present, will be felt and seen. The subjective symptoms tenesmus, colic, diarrhea and hemorrhage indicate somewhat the degree of inflammation and obstruction caused by tumors. Sometimes these growths can be felt in the colon by abdominal palpation. Polypi which have undergone carcinomatous change have a peculiar indurated base, produce a foul discharge due to the breaking down of the tissues, and the ulcerated portion may be seen thru the proctoscope. When several tumors exist some may be benign while others are cancerous. Tuttle says, "The chances are that in about three out of four cases of multiple adenoma malignancy occurs in some of the growths sooner or later." On digital examination several tumors may be felt. These may vary greatly in size, some being as small as a pea and others may, perhaps, obstruct the lumen of the bowel. Some may have pedicles and others not. The small tumors are soft, but the larger ones are firm as a result of inflammatory or carcinomatous change.

A piece of the tumor may be removed

and examined by frozen section, but the site from which the fragment was removed must be immediately sterilized with the cautery to close the blood vessels and lymphatics and lessen the danger of invasion by cancer if malignancy exist. Where several tumors exist some may be benign while others are cancerous.

Treatment.—The medicinal treatment of the polypi within the large bowel is very unsatisfactory. Diet has no effect on the diarrhea or discharge, and astringent drugs, except huge doses of opium, are utterly unable to control the symptoms more than temporarily. Surgery offers the only permanent relief.

The growth must be promptly, carefully and thoroly removed. Following any less radical treatment they invariably recur. Operation should be performed at the earliest possibility because the tumor increases in size until it may obstruct the canal, also the mucus discharge exhausts the sufferer and there is always the possibility of malignant transformation. The method of approach will depend on the situation of the growth.

Tumors in the rectal ampulla become pedunculated and are dragged down until they extrude from the anus at each defecation. Such tumors can be removed thru the proctoscope with a snare. Sometimes these tumors are sessile instead of pedunculated and must be excised. An elliptical incision should be made thru the mucous membrane down to the deeper coats and the edges closed with fine catgut sutures. By so treating the base there is no danger of cutting thru an invagination of the peritoneum, should that be present, as might occur when using a snare or a crushing instrument. The wound edges must be carefully approximated with fine catgut to assist

prompt repair as otherwise an ulcer may result, and in these epithelioma frequently develops.

After Treatment.—The rectum should be cleansed at least twice daily during recovery that the field may be kept scrupulously dry and clean. The patient should be given ten minims of tincture of opium three times each day to confine the bowels. On the fifth day he is given an injection of eight ounces of mineral oil to facilitate defecation and following each evacuation for the next week the lower bowel should be irrigated with normal salt solution. Because of the possibility of malignant recurrences these patients should be kept under observation for at least one year.

Tumors in the sigmoid are difficult to remove thru the sigmoidoscope and in such procedure there is always danger of producing perforation of the bowel with resulting septic peritonitis and death. Such neoplasms should be removed by sigmoidostomy, as advised by Mayo.⁶

Technic.—The abdomen is opened in the median line suprapubically and a self-retaining speculum adjusted. The patient is placed in the Trendelenburg position, the small bowels packed off and the sigmoid lifted up and opened thru the anterior white band at a point opposite the tumor. The neoplasm is exposed and delivered thru the incision until sufficient normal mucous membrane is everted to apply double clamps well beneath the base of the tumor. The growth is cut off with the cautery and the mucous membrane wound closed by continuous suture of chromic catgut. The bowel below the site of the growth should be reinforced by a few interrupted silk sutures. The incision in the sigmoid is then closed with continuous catgut and interrupted silk. A long rectal tube is intro-

duced at the anus, passed beyond the operative site, fastened to the anus with a suture and left *in situ* for a few days to prevent the accumulation of flatus.

When the tumors extend above the sigmoid they are not usually localized, but may be found in any part of the colon. In some such instances the growths seem to develop as a result of infection and a cure may be affected by complete physiologic rest of the entire large bowel for a period of six to twelve months. An ileostomy with a right-sided artificial anus should be tried before resorting to colectomy. In the intervening months while the ileostomy is being tried the rectum and lower sigmoid may be cleared of polypi. Later the bowel may be restored to its function if deemed advisable. Appendicostomy and cecostomy do not serve this purpose because, altho both permit colonic irrigation and medication, the colon is promptly refilled with and contaminated by fecal contents from the small bowel. Short circuiting by ileosigmoidostomy does not relieve the infection in the pelvic colon. It is often impossible to bring the ileum down to the lowest loop of the sigmoid and, therefore, the disease below the anastomosis will persist. Ileostomy has all of the advantages of a left-sided colotomy without its disadvantages. Ileostomy permits drainage of the small bowel and physiologic rest with irrigation of the colon. The contents of the small bowels possess only a slight odor compared to the constant, foul stench of a left-sided artificial anus. There is also very little irritation of the skin. Each day the skin is carefully washed with warm water and good soap (castile), then dried and bathed with alcohol, being careful not to let any of the alcohol reach the mucous membrane of the wound. A modified Lassar's paste is used as a coating. Instead

of using vaseline as in the regular Lassar's paste I use paraffin. This sets a firm wax when cold and must be heated each time it is used. When the skin about the artificial anus is well dried the heated paste is spread smoothly over the skin. It soon sets and makes a perfect protection.

Technic.—The following is the technic of Brown.⁷ The abdomen is opened in the right rectus line sufficient for exploration. The cecum is sought and the colon carefully examined its entire length. All pericolic adhesions are severed and the appendix removed. The ileum is cut between two clamps close to the ileocecal valve. The distal ileum is closed. A lateral opening is made in the cecum, a large catheter inserted and the opening closed tightly about the catheter with a purse-string suture. A second purse-string suture of a No. 1 chromic catgut is placed one-quarter inch further out and three long fixation sutures inserted beneath it. A stab wound is made at McBurney's point thru which a forceps is inserted and the catheter and fixation sutures are pulled thru the stab wound. The peritoneal surfaces of the cecum surrounding the catheter are scarified and drawn up snugly against the abdominal wall and fixed in the stab wound. A stiff rubber drainage tube is next inserted into the proximal ileum and fastened with a double purse-string suture. The ileum is brought out of the lower angle of the rectus incision. The parietal peritoneum is well approximated to the ileum and the abdomen closed.

Later the continuity of the large bowel may be restored if the patient's health warrant and the colonic mucosa has returned to normal, but such a procedure must not be considered too early. Excision of the whole diseased portion may be thought of also. Lilienthal⁸ removed the whole colon

in such a case with a very satisfactory result. That, of course, is desperate surgery, but is warranted in view of the danger of malignancy.

Adeno-Myoma.—Occurs in or arises from the muscular coat of the rectum. It consists of smooth or non-striped muscle and fibrous tissue and sometimes contains typical gland islands scattered thruout in which case the growth is called an adeno-myoma. Descourdes⁹ reported 80 cases of intestinal myomas of which 16 were in the rectum.

The hystologic origin of these neoplasms is not always clear. Their most frequent location is on the anterior surface of the rectum in the triangular space back of the body of the uterus or the cervix, below the peritoneum and from which situation it may extend anteriorly into the uterus, laterally into one or both broad ligaments or backward into the rectum. A given tumor may develop in all of these directions and fix all of the pelvic organs into one mass. The new growth may project as a definite nodule into the lumen of the bowel, pushing the mucosa before it or it may spread out laterally around the gut as an annular band. Adeno-myoma has also been found in men in the space between the bladder and rectum.

Symptoms.—The symptoms depend upon the size of the growth and the structures involved. If small and free in the recto-vaginal septum or posteriorly in the hollow of the sacrum, they may exist without causing symptoms.

1. Profuse, painful menstruation is complained of by nearly all women. Cullen¹⁰ reports a patient who suffered from painful floodings despite having had pan-hysterectomy two years before.

2. When the broad ligaments are involved pelvic neuralgia of the rectum and

sacrum is distressing as a result of pressure on the nerves. This symptom is especially severe during the congestion incident to menstruation.

3. If the tumor projects into the lumen of the bowel, obstruction to defecation may occur, altho when the mucous membrane becomes fixed it congests and dysentery and rectal hemorrhage are complained of.

Vaginal examination presents a thickening of the vaginal vault which may be nodular, but is usually diffuse as the tumor spreads out laterally and resembles the inflammatory exudate of pelvic cellulitis. The vaginal mucosa covering the mass is puckered and bluish if the tumor is adherent to the vaginal wall. In the case reported by Cuthbert Lochyer¹¹ there were blue points like varicosities in the mucous membrane.

Rectal Examination.—The tumor can often be more clearly defined per rectum than by the vagina. The growth frequently involves the rectum and the mucous membrane is fixed and puckered.

Diagnosis.—The diagnosis is difficult and is to be differentiated from

1. Polypus.
2. Scirrhus cancer.
3. Pelvic cellulitis.

A careful and thoro microscopical examination is necessary in every case. Primary carcinoma of the vagina is very rare.

Treatment.—1. Where small discrete nodules exist in the triangular space between the vagina and rectum they may be dissected out thru a vaginal incision.

2. Where the growth invades the cervix or uterus an abdominal hysterectomy should be performed.

3. If the growth glues the rectum and uterus together, the uterus should be freed on both sides. The uterus may be carefully dissected free and by incising the vagina anteriorly and laterally the uterus and rectum can be lifted up out of the pelvis while a section of the anterior wall of the rectum is removed.

4. If the mass spreads around the rec-

tum and narrows its lumen the bowel must be resected.

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A SPECIFIC TREATMENT FOR INFLUENZA AND PNEUMONIA.

BY

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In former papers I have used the qualifying adjective "apparently" because the treatment was new, and I felt it wiser not to claim too much; but now, after it has seen constant service for six years, and has never failed, when used under the proper conditions, to cause a prompt amelioration of the symptoms and a rapid return to health, I feel that the time has come to claim for it the distinction of being a real cure for these conditions.

Just how it works I am not prepared to say, and shall reserve that subject for a subsequent paper. The chief thing interesting to a physician is, that when he

is called to an early case of pneumonia or influenza, he can feel as absolutely sure that he will secure a normal pulse and temperature in much shorter time than under any other treatment of which I have knowledge, not excepting the specific effect of quinine in a simple case of malarial fever.

The treatment consists of the intravenous injection of a solution containing 1 gm. each of soluble phosphate of iron, sodium salicylate (synthetic), and a saturated solution of best beechwood creosote in calcium dissolved in 30 c. c. of normal salt solution. This solution, after being put thru a cold porcelain filter, is sealed in glass ampules and sterilized by steam. It is then ready for use. The median basilic vein is generally chosen on account of its accessibility, and the solution is injected very slowly thru a 28 gauge needle. The immediate effect seems to be to cause some central disturbance. The patient's face will flush, and usually he will feel very sick. Frequently there will be a prompt emesis. This effect passes off in a couple of minutes and there is no further disturbance noted. Often the patient expresses himself as feeling very much better shortly after the treatment, and it makes one wonder if our venerable predecessors were so far wrong after all with their "puke and purge." I make a practice of keeping the kidneys well flushed with frequent draughts of water containing small doses of spiritus etheris nitrosi. The earlier the treatment can be given in a case, the more marked is the effect; if delayed until towards the end, it will do but little good.

There seems to be reluctance on the part of some physicians whom I have met, to inject the solution on account of the fancied danger of causing emboli. I fail to see how a solution as weak as this and injected into the blood stream as slowly, and in as small

a quantity, can cause the slightest harm. As a matter of fact, I have personally given the injection over 500 times, some other physicians have had a large experience in using it, and beyond the momentary effect already noted, there has not been the slightest inconvenience to the patient. Of course, it goes without saying that the needle must be in the vein. The patient should be instructed to give instant warning of any pain, for if the solution should be injected into the muscle it would cause great suffering, but given properly there should be no local sensation whatever. An all glass syringe should be used, and it is very convenient to have one with the nipple on the side instead of in the center, as is usual. The firm from which I purchase the syringes makes them for me in this manner, and doubtless other manufacturers would do the same on request.

I append a few brief reports that are typical of the action of the solution. They are taken from the practice of Dr. F. V. Moore of Somerville, Mass.

Case 1.—Male; age 18; wt., 122; student. Felt all in; pains everywhere; frontal headache especially marked; diagnosis, influenza.

Nov. 10, 1919—Given 4 c. c. of solution. Temperature, 103 F.

Nov. 11, 1919—Temperature, 102 F.

Nov. 12, 1919—Temperature, 100.2 F.

Nov. 13, 1919—Temperature, normal; case discharged in good condition.

Case 2.—Male; age 37; wt., 127. Taken suddenly ill on way home from work. Tremendous headache; sore all over; no other symptoms of importance; was given 4 c. c. of solution; symptoms immediately relieved; case discharged in three days feeling well.

Jan. 15, 1920—Was given 4 c. c. of solution. Temperature, 104 F.

Jan. 16, 1920—Temperature, 101.3 F. Much improved.

Jan. 17, 1920—Temperature, 99.2 F. Feeling O. K.

Jan. 18, 1920—Case discharged.

Case 3.—Male; age 21; wt., 146; strong and vigorous student.

Jan. 18, 1920—Felt deathly sick in middle of afternoon; left college; felt worse on way home; tremendous frontal headache.

Jan. 18, 1920—Given 4 c. c. of special solution.

Jan. 19, 1920—Given 4 c. c. of special solution. Temperature, 101.3 F.

Jan. 20, 1920—Temperature, 99.1 F.

Jan. 23, 1920—Temperature, normal; case discharged.

Case 4.—Male; aged 75; wt., 140; blood pressure, 178 sys. Pain in back, bronchial breathing at base, also slow dulness; moist râles; face flushed at malar bones; pause between inspiration and expiration; expiratory grunt; constipated.

Feb. 23, 1920—Given 2 c. c. of special solution. Temperature, 103.4 F.

Feb. 24, 1920—Skin moist; sweating; no discomfort. Temperature, 99.1 F.

Feb. 25, 1920—Temperature, normal; case discharged.

Case 5.—Female; age 51; wt., 145; distinct chill; complained of pain in left axilla and between shoulder blades; breathing labored; expiratory grunt.

Mar. 2, 1920—Given 4 c. c. of special solution. Temperature, 102.4 F.

Mar. 3, 1920—Given 4 c. c. of special solution. After each injection said she felt well enough to get up. Temperature, 102.1 F.

Mar. 4, 1920—Cough harassing; raising bloody sputum; no pain or distress; given simple cough mixture. Temperature, 99.2 F.

Mar. 5, 1920—Feeling “fine”. Temperature, 98.4 F.; cough infrequent, sputum still rusty; pneumonic process stopped. Laxative.

Case 6.—Male; age 43; wt., 270; very thick-chested, short-necked individual; heavy drinker. Moist râles front and back, breathing labored; expiratory grunt; heart action regular but weak; rusty sputum; stabbing pain between the shoulder blades; face flushed; pause between inspiration and expiration; was taken sick February 29, 1920, with a distinct chill and rise of temperature to 101.4 F.

Mar. 2, 1920—Given 6 c. c. of special solution by Dr. Park.

Mar. 3, 1920—Terrible cough, but does not hurt. Temperature, 101.2 F.

Mar. 3, 1920, P. M.—Gave 4 c. c. of special solution.

Mar. 4, 1920—Temperature declining; felt “fine”; no distress; has had no trouble in breathing since first injection.

Mar. 5, 1920—Temperature, normal; case discharged; all cleared up.

I have purposely made this paper brief and concise. These six cases were from another man's practice. The last one I saw with him was in consultation. If numbers were necessary I could duplicate these by a hundred others. But what is the use? They all have the same distinguishing features—a very sick patient, an intravenous injection of my solution given, a prompt drop in all symptoms, a normal pulse and temperature in two or three days, and the patient clamoring to get up.

I have used it at all ages, from youths of ten to old people over ninety, and never once have I seen any harm arise from it. It is superior to the serum or vaccine treatment, in my opinion, for several reasons:

1. It does not require a special variety

to combat the particular kind of bacteria present.

2. There is no unpleasant chill such as frequently occurs after the use of the vaccines.

3. The solution can be easily and safely prepared by any physician, and after it is once sealed up and sterilized can be carried indefinitely until a call comes for its use.

4. It is very inexpensive.

Let me emphasize these points concerning its use:

Be particular to use an all glass syringe with nipple on the side, and the finest gauze needle you can get—28 if possible. Of course strict asepsis goes without saying. Use it promptly as a routine thing when the case is first seen. Caution the patient about the sick feeling that comes, and goes immediately after the injection.

Be sure to get all the solution into the vein.

The treatment does not antagonize any other indicated remedy that one may wish to employ.

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OCCIPITO-POSTERIOR POSITIONS IN CHILDBIRTH: WITH RE- MARKS ON THEIR PROPER HAND- LING.

BY

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According to statistics ninety-seven per cent. of all pregnancies terminate in head presentations. In seventy-five per cent. of these the child presents in the O. L. A. position, four per cent. O. D. A., twenty per cent. O. D. P., and one per cent. O. L. P. The frequency with which posterior positions are encountered renders the subject

of importance to the obstetrician, and that is my reason for presenting it for consideration.

Because in the majority of cases a child presenting in the O. D. P. position rotates during the second stage of labor and the position thus becomes O. D. A., most general practitioners making the diagnosis at that time classify the position as O. D. A., when had the diagnosis been made when the head engaged at the superior strait, the position would in reality have been found O. D. P.

In posterior positions the first stage of labor is usually prolonged because the wide biparietal diameter of the head must pass thru the narrow space between the promontory of the sacrum and the right side of the pelvis, or the iliopectineal eminence. Necessarily a powerful "driving force" is required to push the occiput thru the pelvic brim, whereas the sinciput occupies the wider portion of the pelvis and easily descends thereby tending to produce extension of the head, which is the very thing one must guard against. Naturally the degree of extension depends upon the relative size of the head as compared with the pelvis.

When there occurs only sufficient extension to cause the forehead to press against the pubes, further extension is thus retarded and pressure from above directed to the occiput forces it beyond the brim with the head in a fairly well-flexed position; but if the disproportion in size between the occiput and the posterior portion of the pelvis is more extreme, and if extension continues, after a long first stage of labor, the head may either (a) pass the brim in an extended position, (b) be arrested at the brim as a brow presentation, or (c) the position be converted into a face presentation. After its escape thru the superior

strait, if the occiput enters the pelvis while the sinciput is at or above the brim, the space being more roomy, it rapidly descends to the pelvic floor and because of pressure of the anterior wall the sinciput makes but slight progress, the occiput being between the sacrum and the right side of the pelvis and the sinciput against the upper portion of the left anterior wall. As the pains continue and the descent progresses the occiput follows the posterior groove of the pelvis, being pushed forward by the edge of the sacrum, while the sinciput passes backward unopposed by the smooth upper portion of the pelvis.

Rotation thus progresses until the occiput assumes the anterior position, and the head is O. D. A. in the lower portion of the pelvis. However, when the head passes the brim so far extended that the forehead reaches the deeper portion of the pelvis at the same time as the occiput, then both extremes of the head are urged to rotate forward because the forehead occupies the anterior groove while the occiput is in the posterior groove of the pelvis, and neither can come forward unless manual or instrumental flexion of the head is accomplished.

In rare instances, where the posterior edge of the anterior groove formed by the ischiatic spine is more prominent than the edge of the posterior groove formed by the sacrum, the sinciput is more firmly fixed than the occiput, and the occiput may then rotate into the hollow of the sacrum and be expelled posteriorly.

From the foregoing it may be seen that the normal or most favorable mechanism of posterior positions depends upon the degree of flexion present, hence the importance of early recognition of the position and the means of preserving flexion in these cases. I have in the main described the

O. D. P. position, and the O. L. P. simply means substituting the left side of the pelvis for the right.

Management of labor in posterior positions: The prophylactic treatment depends upon early recognition of the position before rupture of the membranes or engagement of the head, hence the importance of examination some days before labor, and an endeavor by abdominal palpation to ascertain the position of the fetus. A posterior position being recognized, correction may sometimes be accomplished by placing the patient in the knee-chest position thus causing the child to gravitate from the pelvis, and the back being heavier there is a tendency for it to rotate toward the front. This should be tried several times daily during the latter part of pregnancy, and on reinquishing the knee-chest position the patient should lie on her right side for some time in the hope that the head may become fixed in the anterior position.

Passage of the child thru the superior strait: In posterior positions more frequent examinations are necessary in order to watch the degree of extension, and so long as extension is not extreme nature may be allowed to continue her efforts; but if extension becomes extreme, that is, to the extent that the eyebrow or forehead may be felt below the pelvic brim, one should then (or even before) endeavor to restore flexion by placing the patient in the knee-chest position, by making pressure upon the forehead with two fingers within the cervix, and at the same time by pressure upon the head endeavor to force it upward from the brim, in the hope that re-engagement will maintain better flexion. By having the patient lie on her side and with two fingers in the cervix exerting continuous pressure upon the forehead, one may materially aid

in proper flexion of the head. Should these measures fail, the hand should be introduced into the vagina and the os dilated with the fingers until half the hand (or all the fingers) can be passed into the uterus, and by pressing upward upon the forehead sufficient flexion may be secured to free the head from the brim; then maintain the head in a flexed position with two fingers applied to the anterior portion, and by making external pressure force the head downward in a flexed position and hold it there until firm engagement ensues. However, should extension become re-established, instrumental delivery or version should be practiced.

There are three methods by which delivery may be accomplished, *viz.*, (1) version, (2) manual rotation of the head and application of forceps in the anterior position, (3) forceps applied in the posterior position. The latter should not be undertaken unless the other procedures are contraindicated, impossible; or have been tried and failure has ensued. The choice really lies between manual rotation with application of the forceps and version. The former is a very difficult operation as it is necessary to apply forceps when the head is freely movable at the brim, and unless one is an adept in the use of the instrument he had better select version. However, it is believed there is less danger to the mother in the forceps operation.

In manual rotation of the head the whole hand must be passed into the uterus and gently applied over the face and forehead of the child, the hand and forearm being rotated with the head until the occiput is well anterior and to the left of the median line. At the same time the external hand is used to rotate the trunk, the head being pushed to the brim and held there while

forceps are applied to the sides of the head. Version should be performed in the usual way if decided upon.

In applying forceps while the head is still in the posterior position, the instrument must be applied to the sides of the pelvis, thus taking an oblique grip upon the head, and unless care is exercised this is apt to result in fracture or serious compression of the skull. When the head is thru the superior strait, the forceps should be removed, even altho they may have to be re-applied. In the passage of the head thru the canal, flexion should be maintained by pressure with two fingers placed as far forward as possible, and at the same time pressure should be directed toward the back. This procedure usually maintains flexion and the head rotates normally. However, should extension occur which cannot be corrected by pressure upon the frontal bones, if the head is low and there is a lax, roomy vagina, the fingers of one hand should be used in attempting to pull the occiput downward while pressure is made in front with the other hand. This procedure failing, sometimes one blade of the forceps or the vectis may be used to pull downward upon the occiput while pressing upward upon the sinciput.

When failure attends all these measures, I would recommend a reverse application of the forceps so as to pull the occiput downward, thus producing flexion and when flexion is obtained the instrument should be removed. When the head is in a posterior position and rotation fails even altho the head is well flexed, if labor is unduly delayed and the woman is becoming rapidly exhausted, forceps must be applied to assist delivery. Care must be exercised to apply the instrument to the side of the head with the concavity toward the fore-

head and the tip well into the pelvis, so as to grasp the occiput and in traction to promote rather than retard flexion. Traction should be directed backward against the perineum until rotation has occurred, and then the forceps should be removed, or even before rotation has fully occurred. At the end of each traction loosen the handles of the instrument to allow the head to rotate between the blades, care being taken to ascertain the exact position of the head before again applying traction. If necessary, the instrument may be re-applied with the concavity toward the occiput and the head delivered. Do not try to rotate by moving the handles of the instrument; let the head rotate by itself. The application of forceps to a persistent posterior head should not be made until after patiently waiting, and either the mother or child shows increasing exhaustion and progress has ceased.

MAY THE STATE STERILIZE CRIMINALS PREVENTIVELY?

BY

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There is an error gradually infecting all nations of late which is that the state, as such, is above morality; that what the civil authority permits or orders is by that fact alone made licit or obligatory. Hence the interference with individual liberty, with the rights of man, shown by laws for the mutilation of the physically degenerate, meddling in parental rights, and so on.

A law is a rule and standard of action: a just, permanent and rational ordination for the good of the community, promulgated by one who has charge of that com-

munity. The state does not own the people. A governor, lawgiver, judge, has power of jurisdiction for the good of the governed; he owns no one. The business of a government is to protect each citizen in the pursuit of temporal happiness, to develop his natural faculties, establish and preserve social order, wherein each citizen is secured in his natural and legal rights, and is held up to the fulfilment of his own duties so far as they bear on the good of the community as such; and also to put within the reach of all citizens, as far as possible, a fair allowance of means to acquire temporal happiness, or external peace and prosperity. That is the whole business of the state. The state is for the people, and it may not transgress an inch beyond its proper limits, which are as hard and fast as those which bind the individual citizen. The citizen is not to be treated solely as an industrial or military unit. We must obey civil authority, but we are not slaves or chattels of that authority. The state's authority over us is not dominative; it is only a power for our good and utility. The state has no more right to invade the rights of its meanest citizen than it has to lie or blaspheme. The end of the state is not the public good considered as an end in itself. The individual citizen is not his own end in life, and no mere multitude of men can become their own end. If the end of the state is the public good then private good is subordinate to this, and the public good becomes man's final end, which is subversive of human dignity, and is despotism.

A typical case of the state's interference with the rights of the individual citizen is the Indiana vasectomy law, which has fallen into disuse but was adopted by several other states. It has already fallen into

the class of passing fads. The law was declared unconstitutional in New Jersey, Michigan, Washington and Kansas, but there were hundreds of cases operated upon in Indiana before the procedure was checked by Governor Marshall, now Vice-President of the United States.

Vasectomy is what is technically called by moralists a grave mutilation, and it is, of course, morally illicit unless there is sufficient reason for it; and mere prevention of possible criminality is not such a reason for several objections. Vasectomy may be done either at the request or by the permission of the vasectomized person; or by order of the state. If it is done by the request or permission of the vasectomized person, it may be either as a means to use the conjugal debitum without the inconvenience of having children; or as a therapeutic measure to cure some malady. If it is done by the order of the state, it may be as a punishment; or as a prophylactic measure to avert physical or moral evil to society.

If vasectomy is done merely to be able to use the debitum without the inconvenience of having children, it is evidently illicit. It is in that condition the same as onanism; it is contrary to the basic justification of marriage; it is a frustration of nature; and so on. The same argument holds when the operation might be done to safeguard a wife with a narrow pelvis. It then becomes an evil means used to effect a supposedly good effect; but no effect following directly from evil means can be good, as a direct cause specifies the morality of the effect, and no end justifies an evil means. If there were a condition where the vasectomy would save the life of the patient, or prevent the destruction of the patient's health, it would be justifiable, as we may mutilate the body to save it. In this last case we have a double

effect proceeding from the single mutilating cause, one effect good, the saving of life or health, the other evil, the mutilation. The good effect is directly willed, the evil is reluctantly permitted. It is just like ligating the arteries in a ruptured tubal pregnancy, where the direct effect is to save the woman's life, and the reluctantly permitted involved evil effect is the death of the fetus from the ligation. A double effect case is *toto coelo* different from a case where an evil effect becomes the direct cause of supposed good. We must remember that all morality is a matter of intention. The same effect can be a mere unmoral accident or a murder according to the intention of the agent.

When vasectomy is done by the state it is, as was said, either a penal or a prophylactic measure. As a general statement we can say the state in certain conditions has a right to kill or mutilate a criminal in defence of the social order; but even then any punishment, to be justifiable, must be effective and necessary, and it has to be either reformatory, exemplary or reparative in regard to the crime for which it is inflicted. As vasectomy by the state is neither effective, nor necessary, nor reformatory, not exemplary, nor reparative, it lacks every quality of a justifiable punishment. In the first list of vasectomies done in Indiana prisons, 176 operations were done on men who voluntarily asked for vasectomy. There is no pain, no inconvenience caused by the operation, no sexual change perceptible, but a fitting of the criminal to indulge his lusts without inconvenience. Instead of being reformatory it is conducive to crime, and the operator is a mere panderer. The operation, which is not a punishment to the men upon whom it is done, is an unnecessary deprivation of an

essential right of these men, and excessive, ill-ordered attack on a primary right of man, and an act of violence upon human nature without adequate reason, and it degrades the conjugal relation into mere onanism.

The legislators in the states in which the law was passed were influenced by the pseudoscientific notion that criminality is an hereditary condition, a physical disease, and not a matter of volition. This Lombrosian absurdity is now held by no scientist. Moreover, if the state vasectomized all the criminals in its jails it would not appreciably affect the supply of criminals, nor even reach a minority of existing criminals, because the dangerous criminals are not in jails.

It is to the interest of the state to prevent the transmission of hereditary disease and in doing so it may to a certain extent curtail the natural liberty of its citizens. When the peril is great, as in a plague, the state may isolate infected individuals and thus indirectly, but temporarily, prevent a natural right; it may even perpetually isolate, as in leprosy. Vasectomy, however, is a direct permanent prevention, without reason, and it is done as an evil means to effect a so-called end, which it never attains. A man with Huntington's chorea, if married and if he has children, will surely transmit the disease to some of his children, and they to their children. Vasectomy on him will prevent a propagation of his kind, but will cure no disease. He is not a criminal, however, and not amenable to punishment. The bad effect, sterilization, must be perpetual in his case or it is foolish, but the sterilization is not a punishment, nor a means of saving the health of the patient. Whatever so-called good comes out of the act comes out of an evil cause and is, there-

fore, really evil, not good. If such a man persists in marrying, his marriage might be prevented, but that is different from mutilating him.

The state has no *direct dominion* over the lives or members of its citizens, nor are citizens naturally mere instruments for the good of the government; on the contrary, the government exists solely for the good and utility of the citizen. The state may not take the life of an innocent person, nor mutilate him, unless these acts are unavoidably necessary either to protect the life or rights of individuals, or to preserve the social life of the common wealth, and neither of these two requisites is present when there is question of vasectomizing a man. The rights of possible children yet unborn are not injured, because as these children do not exist they have no right.

The advocates of freakish legislation harp on the assertion that insanity and imbecility are increasing alarmingly, and as a consequence the entire nation is degenerating. To cure this evil we are to mutilate certain criminals, who lack the wit to elude the average detective or policeman, and the mentally defective. The state could never even diagnose a thousandth part of the imbeciles in one city like New York. The increase in insanity, too, is much more apparent than real; we have begun to find out the insane who were always with us, and the cheap politicians we put in the immigrant stations let in the craziness of Europe upon us. There seems to be an increase of insanity among our negroes, but the cure is not by vasectomy. If we could do something for the men and women who think they think in the educational department of the nation the cure would come more quickly. Education which ignores the will, upon which all morality and virtue

are based, and substitutes a sham intellectuality as elaborated by ignorant boards of education and administered by half-educated women, is our chief source of mental and moral deterioration. If we could civilize our schools we should have no occasion for legislation by vagary.

2228 So. Broad St.



Goiter.—From their studies with the aid of the respiration calorimeter, Means and Aub believe according to an editorial in the *Jour. A. M. A.* (March 20, 1920) that the safest program for the treatment of exophthalmic goiter, as a whole, is the routine irradiation of thyroid and thymus glands, in all cases, with surgery held in reserve for patients who do not then do well. The Boston diagnosticians conclude that surgery is contraindicated with patients whose metabolism is rising in spite of complete rest in bed, and also patients of the type with moderate tachycardia and great metabolism increase, except when they have previously had the thyroid and thymus glands treated with the Roentgen ray. If one is justified in asserting today that "in the management of exophthalmic goiter, periodic determination of the basal metabolism should be quite as much a routine as is the examination of the urine for sugar in diabetes mellitus," it must be admitted that clinical calorimetry has won a place for itself within an unexpectedly short period.

Endocrinologist and Internist.—Herrick writing in *New York Medical Journal*, (Feb. 14, 1920), says that back of the endocrines and responsible for their disturbance other conditions may lie. These may be infections, metabolic disorders, psychic states which may be entirely overlooked if one's vision is limited. It is well to emphasize

certain facts with which pathologists are familiar: that the thymus gland diminishes in size or even largely disappears as a result of prolonged, wasting disease; that posterior basilar meningitis produces disturbance of the pituitary gland, which may be expressed as a diabetes insipidus, that as Mills has shown, the testes are profoundly affected in pneumococcic infections. The effect of infection, focal and otherwise, on the thyroid gland has been emphasized by various observers. The acute degeneration of the adrenals found in those dying from diphtheria is well known. The disturbances of the menopause may not always be due to ovarian hypofunction: a possible early renal insufficiency or cardiac disturbance, or the pronounced anemia which often accompanies the menorrhagias of this period are examples of considerations not to be left out of account. The writer emphasizes the importance of association of the endocrines with the entire complex of the body frame and the futility of considering these glands as structures apart from the whole.

Alimentary Anaphylaxis from Pancreatic Insufficiency.—One of the best known of the food anaphylaxes, according to an editorial writer in the *Medical Record* (Apr. 17, 1920), has to do with egg albumin. This type comprises various clinical forms and degrees of severity, ranging from simple diarrhea and urticaria on the one hand to grave and lethal forms of edema at the other extreme, as in angio-neurotic edema of the glottis. The part played in these cases by the digestive tube has never been entirely clear. Nathan, in *Le Bulletin Médical* for January 21, 1920, xxxiv, 4, asks whether we should look upon the digestive enzymes as normally our antianaphylactic defence forces. If this be the case anaphylaxis would mean enzyme insufficiency and the problem would be simplified. This matter has recently been put to the experimental test by Lesné and Dreyfus. Egg albumin was first treated with pepsin and then injected into a sensitized animal and anaphylaxis was produced as usual. Pancreatin was then substituted for pepsin and anaphylaxis was absent. Here is the simple solution of a most difficult problem. Pancreatin transforms anaphylactic to non-

anaphylactic proteins. An eight-year-old boy had egg anaphylaxis to such an extent that any dish which contained egg caused abundant fetid diarrhea, urticaria and other eruptions, and for years his parents had been compelled to exert the greatest care in feeding him. The child was healthy and normal, presenting only a little meteorism, but analysis of the feces showed that pancreatic insufficiency existed, the stools containing undigested fat and muscle. Pancreatic extract was now exhibited, 40 cg. daily, and at the same time egg albumin was cautiously added to the diet. Tolerance did not, however, develop for when the pancreatic extract was intermitted anaphylaxis reappeared. An exactly similar case has been recorded by Lesné.

A Hypothesis of Hormone Hunger.—

Harrower (*Medical Record*, Aug. 16, 1919) advances a new theory regarding the manner in which the endocrine glands respond to the various hormonal stimuli and bases upon it some notions as to how the body avails itself of the internal secretory products which may be administered for the treatment of various troubles of this nature.

It is presumed that there must be some capacity on the part of the organs influenced by these hormones to select them from the blood. If the supply of these substances is reduced a condition of "hormone hunger" results, which is really dependent upon either the necessities of the gland that needs the stimuli or the capacity of the organ producing these stimulating substances.

It is well known that the complicated ideas concerning immunity are based upon a theory—Ehrlich's "Side-Chain Theory"—and there should be no reason why we should not base our opinions about organotherapy and the internal secretions upon a theory also, for there is no way of proving the matter definitely.

Harrower explains the matter by referring to the relationship between the thyroid, pituitary and ovarian glands. Each of these works in reciprocity with one another, their functions being fitted together so that it is almost impossible not to have a pluriglandular dystrophy when one of them is involved. If there is a hypothyroidism there will be reflected upon the ovarian function an in-

sufficiency manifested by amenorrhea, neuroses, the climacteric, etc.

The condition of hormone hunger in the ovaries would be a measure of the capacity of this gland to pick up the various stimuli that it needs, but which are deficient because of the thyroid disturbances. If then, these hormones are administered to these patients, the ovarian capacity for picking them up will be greater, and Harrower applies this notion to pluriglandular therapy, by saying: "In a pluriglandular difficulty if the thyroid element is greater than that of the other associated glands, the avidity with which the thyroid portion in a pluriglandular formula was taken up would depend upon the degree of hormone hunger on the part of this gland. In other words, the greater the hormone need, or hormone hunger, the greater the capacity to select from what may be given to it in the way of organo-therapy."

Cretinism.—The Australian government has been treating their cases of cretinism with thyroid extract, reports *Ellingwood's Therapist*. More than a thousand patients have thus been treated with satisfactory results. Nearly one-half of the cases have been materially benefited, and only eight per cent. showed no benefit. In nearly every case those individuals who were dwarfed have readily increased in height. A remarkable observation was that the dwarfs grew taller even when from twenty to twenty-six years of age, as if the growing power had been held in reserve and was released by the influence of the thyroid extract.

The Endocrine Balance in Women.—Bandler states, in his article in the April 17, 1920, issue of the *Medical Record*, that woman is a combination of glandular ovary, corpus luteum, adrenal medulla, glandular thyroid, posterior pituitary, and mammary acting much more energetically and specifically than in man. That is why she has hyperthyroidism and the numerous emotional conditions which we have so long and so erroneously labeled "neurasthenia," "hysteria," when they really are "neuroses," "psychoses." And if we finally conclude,

as is probable, that one part of a gland acts thru the vagus, and the other part thru the sympathetic then the question of balance is of greatest importance.



Electrical and X-Ray Treatment of Sciatica.—Zimmern (*Journal de Radiologie et d'Electrologie*, Jan., 1920) advances the opinion that true sciatica can be traced to an irritation or compression of the roots of the nerve that are not severe enough, however, to arrest the motor impulse. Consequently, it may be amenable to direct irradiation or to indirect revulsion by a faradic or high frequency current or application of hot air. Other physical measures seem to have only a symptomatic action. The author freely says that his experience warns against trying to combine roentgen-ray treatment with electric revulsion; the latter seems to undo the effect of the former. He gives 2 H units at a sitting. Relief may be obtained at the very first, but the second or third is generally followed by the subsidence of all the pain. Sometimes there is an exacerbation of the pain the evening or the day following each sitting. This return of the pain always proved a sign of favorable omen. If three sittings do not accomplish the result, he waits eight or ten days, to save the skin, and then repeats the course with doses of 3 instead of 2 H. The Achilles tendon reflex seldom returns, or not until very late.

Prophylactic and Other Treatments of Genito-Urinary Diseases.—An editorial writer in the *Amer. Jour. of Electrotherapeutics and Radiology* (Feb., 1920) states that the Surgeon General's office has called attention to the prophylactic management of genito-urinary diseases. There are probably few subjects of greater importance than this, and the importance of such measures as are stated by the Surgeon General's office.

As long as the weakness of humanity is

conceded there is not only a necessity for prophylaxis, but the curative point of view as well for the care of the unfortunates who are made sufferers by indulgence.

In addition to prophylaxis, however, the cure of certain conditions by measures, which the Surgeon General's office has not yet recognized, is a matter of importance. Current medical literature contains frequent reference to surgical methods of treating *epididymitis*, and *gonorrheal arthritis*, conditions which are so easily and readily cured with applications of the static and high frequency electric currents, that surgical procedures which are severe are unnecessary.

The static wave current with a metal electrode applied over the epididymis will relieve the conditions with a few administrations. The electrode held over the part with the patient's hands will remove the induration and force expulsion of infection upward and restore the worst case promptly. This has been demonstrated repeatedly by those who are familiar with the method. The high frequency current has also demonstrated its value in the treatment of these cases.

Gonorrheal arthritis arising as it does in all cases in the male from latent or active infection present in the vesicles or prostate may also be cured, according to Dr. Frank Peckham, by the use of the static wave current applied in the rectum to the vesicles and prostate gland.

The relief in these cases is so uniformly successful when applied in connection with local treatment of the joint that there is no longer any question as to the indication. If the treatment of the parts thru the rectum is not employed the local treatment of the joint would effect no relief, which is established in the experience of a large number of physicians who concede the possibility of curing these cases by the method described. The importance of these measures and their established reliability should forestall any surgical procedure in the management of these cases, when the facilities for carrying out the treatments are at hand.

Cystitis.—In cases of cystitis in old men, it is almost universally found that the infection is from colon bacillus.—*Ellingwood's Therapist*.



The Treatment of Empyema by a Closed Method.—Manson, writing in *Minnesota Medicine* (Mar., 1920), says that surgery of diseases of the thorax is still in a chaotic state. Conspicuously ineffective has been the treatment of empyema—the most common of the surgical affections of the chest—admittedly badly handled, with its high mortality, its prolonged period of disability, and its secondary operations so frequently deforming. The essential points of this method are:

- (a) A single early minor operation without danger of shock or of collapse of the lung.
- (b) The intermittent removal of pus, and antiseptic treatment applied thru a small rubber tube which fits air tight in the chest wall.
- (c) Rapid partial sterilization with Dakin's solution followed by a complete sterilization with 2% formalin-glycerine.
- (d) Maintenance of negative pressure in the empyemic cavity tending to early obliteration of the cavity.
- (e) One dressing which will last several days with no skin irritation.

The technic carrying out the above essential points was as follows:

Under novocain, a 7 mm. trocar with cannula, was introduced into the pleural cavity, a small incision in the skin having been made previously over the cavity as determined by preliminary aspiration. The trocar was withdrawn, leaving the cannula in place until a 24 F. catheter, with one terminal and two lateral openings had been introduced. Then with a 30 c. c. Luer syringe the pus was withdrawn, care being taken to avoid the entrance of air by clamping the tube when the syringe was disconnected from the tube. After the pus had been withdrawn in this manner, 20 to 50 c. c. of Dakin's solution was injected into the cavity and sucked in and out to dissolve the fibrinous masses. The cavity was then nearly filled with Dakin's solution and this allowed to remain from 10 to 30 minutes and then withdrawn. The treatment was repeated from four to six times in the twenty-four hours, the frequency depending upon the condition of the patient and the rapidity with which the pus accumulated. The tube remained clamped except when aspirating or injecting. All cases were controlled by laboratory count and then the discharge on smear, was free from microorganisms, which was usually from 10 to 14 days, the treatment was extended to twelve hours, and then after each irrigation 10 to 50 c. c. of 2% formalin-glycerine was injected and left until the next treatment, when the process was repeated. When the discharge became ster-

ile to culture and the cavity had diminished to a capacity of 15 or 20 c. c., the tube was withdrawn and the opening allowed to heal.

The simplicity of the technic, the minor character of the operation, the cleanliness and comfort of the patient, and the economy of time and dressings further recommend it as the ideal treatment for acute empyema yet devised.

Water Cure for Tuberculosis.—Judging from clinical results, the vasomotor stimulation of a judicious water treatment in pulmonary tuberculosis enhances the fresh air effect so much that the final result is improved at least 50 per cent. by its addition to the other treatment, says Dr. S. Baruch in the September, 1919, number of the *American Review of Tuberculosis*. Especially in many cases forbidding exercise all the good effects of the latter are obtained from a properly administered water procedure. There is improvement of the pulse, nutrition, etc., without the injurious exertion incident to exercise. In all cases the procedure should be mild but methodical, and not left to the patient's fancy. The following procedures have afforded most satisfaction in Baruch's work. If the patient is able to treat himself, he may begin with cool water friction daily after leaving his warm bed, well wrapped and slipped for his bathroom. Dipping the middle portion of a towel in water at 90 F., he twists it so as to expel most of the water. After unfolding it he grasps each end with a hand, throws it over his back and makes rapid passes in both directions, freshly saturating the towel and wringing it several times. He then wrings the towel out of the water and treats the front of the body and thighs to the point of good friction with it. After drying he should proceed into the fresh air, to reap the full benefit of the vasomotor stimulation. The treatment may be repeated on the same afternoon or the following day, according to the urgency of the case, reducing the water temperature each time or less frequently, according to reaction until 70 or 65 F. is reached. Then the quantity of water left in the towel may be increased or the application be prolonged. When the patient is unable to treat himself, the cold friction may be used by the nurse with a mitten of towel repeatedly wrung out, the rule being that it is done quickly and thoroly. It may readily be done in bed. The extremities are omitted. Another more rapid and pleasant procedure is the cold affusion. The patient, while warm out of bed or warmed by a blanket wrapping of one-half hour, is seated in a previously warmed bath tub, the outlet of which is open. From a small tub or large basin water of a temperature of 90 F. is dipped with a broad-mouthed vessel and poured with some force over the shoulders, back and chest of the patient successively. Begin with two affusions over each part, reduce the water temperature daily or twice daily when needed, until 65 F. is reached, then increase the quantity of water used. Dry the

patient and send him out of doors. Good reaction is required, or at least an absence of chilliness after dressing. The water temperature is not increased if the patient feels chilly after dressing, but the procedure is made brief and is gradually restored in duration as reaction improves. In the beginning reaction may be promoted by friction, but the aim of all procedures for this neurovascular training is to evoke spontaneous reaction.

Magnesium Sulphate as an Antiseptic.—The fact that a saturated solution of magnesium sulphate has been used during the recent war as an antiseptic dressing for wounds, and also that it is employed externally as a dressing in erysipelas, makes all investigations as to the method of its action of peculiar interest. Northrup, in the *Journal of Infectious Diseases*, for February, 1919, states that women have known for some time that a saturated solution of magnesium sulphate may be used as a substitute for talcum or face powder, and that a small amount of this liquid taken in the palm of the hand and rubbed over the face until dry leaves a "bloom" upon the skin, and that if there is a tendency to pimples these dry up and disappear. This led Northrup to investigate the influence of magnesium sulphate on the organism commonly found in ordinary pimples, the staphylococcus aureus. It is not necessary to give the details of this research, but it would seem that magnesium sulphate does possess distinct antiseptic power not only in regard to the staphylococcus, but also that this salt inhibits the growth of the streptococcus in the skin. This investigator also quotes Morison and Tulloch in regard to its effect upon the staphylococcus pyogenes, and states that these authors also found that magnesium chloride might be used advantageously in place of magnesium sulphate in that it seemed in some cases to possess more power. Northrup, therefore, suggests that a further study of the specific action of concentrated solutions of magnesium sulphate, and other magnesium salts, on infected skin, or in wounds, may present interesting results.

The Value of Mobilization in the Treatment of Certain Joint Injuries.—Williams, in a recent issue of *Surgery, Gynecology and Obstetrics*, writes that while no therapeutic law has been more firmly established than that of obligatory immobilization for every type of joint injury, it was known that the results were rapid atrophy for certain muscles, as the femoral and quadriceps, and stiffness of the joints.

In recent years, however, it has come to be recognized by certain surgeons that immediate mobilization of non-infected joints was advisable. Williams began the process of mobilization, beginning gradually by the use of evacuator punctures to drain traumatic effusion

of the knee, hemarthrosis and hydrarthrosis, and by making the patients walk immediately. They did this without difficulty and their lesions were cured in a few days.

Cases of purulent arthritis were treated in this manner and the success had been astonishing. In the simple lesions the object had been to prevent atrophy and ankylosis—while in purulent arthritis the object was to drain the articulation. In the first case the joints should be completely closed, while in the second they should be left widely open.

The mobilization should be active, made by the patient by muscular contractions. The movements should reproduce the essential normal movements: extension, flexion and rotation. The object was to restore the physiologic function of the articulation as much as possible—walking in the case of the knee. When complete functional restoration was not possible, he was content to secure the chief active movements with the patient lying down. Active mobilization could not be replaced by passive mobilization which did not call the muscles or limb into play and tended to restore mobility alone. Mobilization should be immediate, as soon as the patient awakens from anesthesia, and he should not be permitted to rest. The movements should be pushed to the maximum in every direction and kept up interruptedly. Careful supervision is required.

Active mobilization is always possible, and the movements become much easier as they are repeated. The process is not painful in the true sense of the term, except when large bone fragments are displaced and then it is contraindicated. To allay pain during rest periods resume the movements.

Proteinotherapy.—Cassan (*Gazette des Hôpitaux*, Nov. 8, 1919) defines this subject as follows: It is a method of treatment in which one utilizes certain proteins in the management of diseases—chiefly infectious—and which is wider than the conception involved in proteose or peptone therapy in that it can include any substance which contains protein and is used in the treatment of disease. Thus whole blood treatment, as in transfusion, comes under the head of protein therapy. The subject goes back originally to Koch's tuberculin and includes the work of Wright on vaccinothrapy. For some reason unknown the author seems to ignore the use of antitoxins, perhaps because of the mode of action. Beginning with bacteriotherapy the next stage comprised the use of bacillary extracts which are technically albumoses and this precipitated the study of various proteins. Mixtures of bacteria with albumoses were used with great success in typhoid fever. Later albumoses were tested alone and one form was milk which having been boiled contained an albumose. Milk was injected and even transfused, but the danger of fat embolism led to its partial abandonment. Later Nolf devised his peptone injection treatment for typhoid, and other forms of protein therapy have con-

tinued to appear. At present the following have been used: Whole blood, plasma, serum; milk; substances classed as albumoses; substances classed as peptones; polypeptids. Blood, with or without preliminary treatment, is, of course, of value aside from its protein content as a reconstituent. The intravenous method is the choice in all protein therapy. The infections thus far treated with good results are the typhoid group of fevers, typhus, influenza, tuberculosis, erysipelas, scarlatina, etc. Of non-infectious conditions hemorrhages are the principal ones to be treated in this manner. The most recent advances are along the lines of gonorrhea and polyarticular rheumatism. The former has long been treated with vaccines, but the author has of late obtained good results from the intramuscular injections of boiled milk with special reference to complications. Nothing is said of the use of vegetable proteins which are being as increasingly employed in America.

Deep Thermometry.—Zondek gives a series of tables illustrating the varying temperature found in different parts of the body. The temperature in the musculature of the abdominal walls and the extremities is lower than that of the rectum, but near large blood vessels the temperature of the muscles is slightly higher, altho still lower than the rectal temperature. The differences are not constant, and vary in different subjects. The temperature of the tissues gradually diminishes toward the surface of the body. Each centimeter marks a difference of 0.25 C. on an average. Layers of fat are poor conductors of heat and serve as a protection in the heat economy, consequently a dry skin presents a lower subcutaneous temperature than an oily skin. If the skin is oily, there is thus a marked contrast between the epidermis and the underlying fascia. The temperature of subcutaneous tissues depends on the character of the underlying tissues, being lowest over bones. The temperature of organs, taken during operations, showed that the liver, the kidney and the uterus had temperatures between the preoperative and postoperative rectal temperatures. During the operation, the body temperature falls. The lungs have almost rectal temperature, the difference being 2.2 C. In one suppurating uterine myoma the temperature exceeded the rectal temperature, doubtless owing to acute inflammatory phenomena. In a hydrocele a surprisingly low temperature was noted.

Rectal Injections of Bile for Constipation.—MM. Bensaude and Vicente, in order to make use of the well-known stimulating action of bile on the intestine, which they have verified by X-ray observations, are stated by the *London Lancet* (Jan. 17, 1920) to have used ox-bile injections for constipation with complete success. They use a dose of 4 gr. to 5 gr. of dry extract of ox-bile dissolved in a quarter of a litre of tepid water. After five or ten minutes a com-

plete evacuation of the bowels takes place generally without colic or pain of any sort. These injections act as well in acute as in chronic constipation; they have succeeded in cases where the classical injections of senna or of sodium sulphate have failed. In several cases bile injections have been repeatedly used for six months without either intolerance or diminution of action being exhibited. Historical investigations have shown that these facts were known from the most ancient times, and that the Egyptians themselves were aware of this method of treatment.

Solution of Mercury Benzoate for Hypodermic Injection.—Leger (*Bulletin de l'Académie de médecine*, Apr. 15, 1919) states that mercury benzoate, which is practically insoluble in water, can be brought into solution only by the addition of certain neutral salts, such as sodium chloride. Chemists have definitely shown, however, that in such a solution the mercury is no longer present as the benzoate, but as the bichloride, the two salts having reacted to form mercuric chloride and sodium benzoate. The amount of sodium chloride required to bring into solution one gram of mercury benzoate is .25 gram, and the amount of the resulting bichloride is .589 gram. Such a solution, however, when made with 100 grams of water, causes pain; but Gaucher found this drawback could be entirely overcome by increasing the amount of sodium chloride from .25 to 2.5 grams. This is perhaps due to the fact that solutions of bichloride which coagulate protein lose this property when sodium chloride is added. For over eighteen months the following formula was used:

Rx	Hydrargyri chloridi corrosivi	0.6 gram
	Sodii chloridi puri	2.25 grams
	Sodii benzoatis	0.7 gram
	Aquæ destillata	

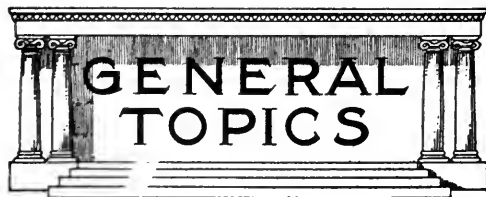
q. s. ad 100.0 mls

Fiat solutio.

Earp, of Indianapolis, uses the following:

	Mercury benzoate	2.00
	Sodium chloride	2.50
	Water dist. q. s. ad	100.00

M. S. Dose, $\frac{1}{2}$ to 1 c. c.



The New York Chamber of Commerce and Compulsory Health Insurance.—The New York Chamber of Commerce at a regular meeting held April 1 unanimously adopted a report presented by its committee on insurance, opposing

the bill introduced by Senator Davenport providing for compulsory state health insurance. The committee made the suggestion to last year's assembly, that a commission be created to make a comprehensive study of health insurance on behalf of the state. This recommendation was not followed. Further study of the subject has convinced the committee that compulsory health insurance attacks the problems involved from the wrong point of view and is economically unsound and unwise. In support of this conclusion the committee submits nineteen general statements, from which we quote:

It is opposed to sound public policy in a democracy, in fostering objectionable class distinctions and a dangerous tendency toward a stratification of industrial society.

It is opposed to public policy in favoring a further encroachment on private rights and privileges, including the most personal concerns of the individual, and the supervision, control and direction of the person in matters of health and welfare.

It is a danger to democracy, in that the promises made are impossible of fulfilment, and on this ground will ultimately create an unwholesome industrial unrest.

It is a delusion in that the poorest poor, who are most urgently in need of sympathetic medical and financial support and assistance, are largely if not wholly outside the sphere of social insurance activities of any and every kind.

Such demand for compulsory health insurance as exists has been artificially created by a skilful propaganda.

It is at best a palliative, and does not reach the seat of the difficulty.

It does not promote the health of the individual, but rather fosters a tendency toward malingering and an undue prolongation of minor ailments for the purpose of wrongful gain.

Experience in other countries shows that medical treatment under its rules results in a standardized method of mediocre practice—the doctor who gives his whole time to the service reduces his profession to a mere trade; the doctor who gives only part of his time to the practice is bound to give it indifferent attention.

Experience abroad has also shown that medical practice under this system tends strongly toward a system of public medicine, opinion being divided as to whether under such a system private practice should be allowed at all, or whether the system should be universal; in other words, whether the doctor should become a state employee, leaving private practice and the work of the specialists to the few who are unwilling to submit themselves to state control.

All the estimates in England have been more or less at variance with actual experience. The state contribution has been very much greater than had been assumed would be necessary at the outset.

Compulsory health insurance is an elaborate bureaucratic scheme which controls wage-earners' lives and wage-earners' incomes. The

hope held out that the institution to be created will be thoroly democratic and, apart from the overhead charges, self-sustaining, never has been and probably never will be realized. Control of essentials soon passes into the hands of the state authorities, with a corresponding increase in the power of bureaucracy.

Tea and Coffee.—According to Trabert's (*Med. Summary*, Jan., 1920) viewpoint tea and coffee are not only stimulants, but also food, and yet a rank poison to some. We may well agree with Pope:

"Pleasures, or wrong or rightly understood,
Our greatest evil or our greatest good."

A great deal too much is said against these beverages, which are both stimulating and nourishing, by some people; but on the other hand, they are also often given in too large quantities or too frequently.

A little tea or coffee restores invalids quite as much as a great deal, and a great deal of tea or coffee impairs the little power of digestion they have.

Both tea and coffee have the property not only to lessen the sense of fatigue, but also that of hunger; like alcohol they destroy for the time being the appetite for food. Thus they tend to prevent such alimmentation as is essential to building up and sustaining the organism. All teas, however good, have this action; but in addition to this, some teas act injuriously upon the stomach itself by reason of the large amount of tannin which they contain. This excess of tannin affects meats unfavorably, hardening them and making them indigestible.

It is a practice to stop tea and coffee in sickness without any regard to the necessities of the case. Customary stimulants should never be withdrawn except to depress the patient. Of what use is it to withdraw customary and needed coffee, thereby depressing the heart's action, which is then stimulated by some other remedy, which might not be required at all if the coffee had not been withdrawn.

Jonathan Hutchinson says, "That he has long been in the habit of prescribing coffee as a medicine in certain states of great debility." He regards it as a remedy quite unique in its usefulness in sustaining the nervous energy in certain cases. Apart from its general utility, and its well-known value as an antidote to poison, he has found it of especial service after operations where anesthetics had been used, and in states of exhaustion where alcohol had been pushed, and a condition of semi-coma followed. In these latter cases he has sometimes prescribed it as an enema when the patient could not swallow, and with the best effects. In many cases where death may be close at hand, such an expedient as this may even be the means of a permanent restoration to health. Tea and coffee seem to be much alike in many respects, but the latter is greatly preferable as to its sustaining power. Tea, if strong, or in any quantity, especially if the individual be not in very robust health, will induce a sort of nervousness.

The different kinds of tea vary much in the amount of tannin they contain. It is said there is less of it in China tea than in India and Ceylon teas.

In preparing tea, boiling water should be simply poured on the leaves and poured off again after standing for a few minutes. Thus the delicious aroma is preserved, and only a small proportion of tannin is extracted. But when the leaves are boiled or stewed a great deal of tannin is dissolved out.

In preparing coffee the water should be at 200° F.; nor should boiling be allowed after water is poured upon the ground coffee. The aroma is lost and much tannin is evolved by boiling, or by allowing the infusion to stand for a long time.

Baths in Diseases of the Skin.—In an article in January 21, 1920, issue of the *Medical Press*, Sibley says the question of washing and baths is a very important one in the hygiene of the skin. Ordinary hot water baths with plenty of medicated soap (benzoin, borax, camphor, carbolic, coal-tar, ichthyol, lysol, menthol, mercury, naphthol, olive oil, oil of cade, resorcin, salicylic acid, sulphur, terebene) are some of the principal preparations used, either singly or in various combinations, and are very useful in most dry forms of skin disease, especially when there is a tendency to an accumulation of dead epidermis, such as in psoriasis, xeroderma, ichthyosis, etc.

Baths may be much improved by the addition of bran, about a pint of bran in a canvas or muslin bag placed in a jug or basin and a quart of boiling water poured on to it and the liquid from this put into the hot water bath. This makes a very soft sedative bath, which, with the addition of two ounces boracic powder, adds to its efficiency.

Emollient baths may also be made of potato starch, $\frac{1}{3}$ lb. gelatine, half gallon linseed, 1 lb. marshmallow (4-lb. size) to 30 gal. hot water.

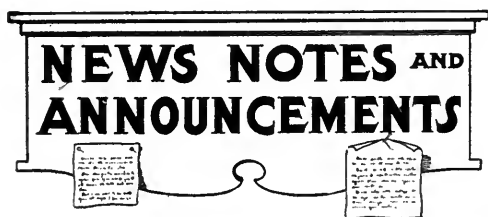
An alkaline bath is very soothing for some irritable skins, 8 ounces bicarbonate of soda added to 30 gal. hot water at a temperature 100° F., or 2 to 6 ounces of carbonate of potash. A borax bath is made by adding 3 ounces borax to a bath of the same quantity and temperature.

An acid bath is made by adding an ounce of nitric or hydrochloric acid, or a mixture of both acids to 30 gal. of water in a porcelain bath. These are very useful in chronic lichen and prurigo. An iodine bath is made with half a dram of iodine, half an ounce of iodide potassium, with two ounces of glycerine, or with a dram of iodine with 1 to 2 ounces liquor potassæ, to 30 gallons of water. In the same way baths may be made of mercury, tar and numerous disinfectants, such as lysol, cyllin, etc. A mercurial bath consists of 1 to 3 drams hydrochloric acid, a dram of biniodide of mercury, with 2 ounces of chloride of sodium to 30 gallons of water. A sulphur bath may be made by adding 3 ounces of potassium sul-

phurate to 60 gallons of hot water. These baths are prescribed for cases of scabies, various parasitic diseases, also in chronic urticaria, etc.

In nearly all chronic dermatoses, such as seborrheic, eczema, chronic dry eczema, psoriasis, lichen and chronic urticaria, a bath of some kind is most efficacious for the cure of the disease and for the relief of the symptoms.

Local radiant-heat applications are very satisfactory for such conditions as pernio, erythema induratum, (Bazin's disease) erythema nodosum, Raynaud's disease, scleroderma, neuritis following herpes zoster, etc.



Where Western Medical Women can Follow the "Urge."—The young medical student who is eager to find a field for real service could choose no better location than China, where the need for medical service is alarming. In spite of the worthy efforts of the 265 mission hospitals which have developed in the last few years, the medical college graduate who has a burning desire to explore virgin fields of medicine cannot afford to disregard the call from the Orient.

The especial call of the East is for women physicians and if the West limits the scope of the activities of medical women, the East is ready to receive her literally with open arms. Any woman with public health training can find in China a field of work greater than that covered by the combined departments of public health in New York, Philadelphia, Chicago and Boston.

A second field for American medical women is offered in orthopedic surgery. The pitiful effects of spinal tuberculosis as seen in the Chinese children are sign-posts pointing a straight way for the orthopedic specialists. Since the Chinese are especially susceptible to tubercular infections, these tubercular children's cases form the largest percentage of cases in woman's hospital.

Sometimes the fate of a nation is decided within the walls of a laboratory. This field of medical science has been sadly neglected in Oriental hospitals and medical schools, for laboratory workers are all too scarce in China. There is so great an opportunity for pioneer work in this field that a Pasteur or a Koch would have yearned to explore these fields. Many of the hospitals have been fitted with X-ray machines, autoclaves, and similar laboratory equipment, but they are useless without the workers. Even one such thoroly trained worker could do more to advance the medical science of China than any other agency.

The newly-established medical schools for women offer attractive teaching opportunities for American medical women. In the schools at Canton, Hankow, Nanking, Peking and Foochow, the staff carry on efficient work in spite of the fact that the standard is not an especially high one. The Hackett Medical College for Women at Canton every year graduates earnest young Chinese women who will improve the health condition of their country. Representatives of the Inter-church World Movement, who have covered the medical field in their survey, report that the Chinese women physicians need the advice and helpful service which their American professional sisters can give.

The need for American workers in this eastern country cannot be overestimated and it is in China that our earnest young American women can find a field of service which shall fulfil their every desire.

The National Anesthesia Research Society.—At a meeting of the Board of Governors of the National Anesthesia Research Society held in Cleveland in March, it was voted to have the annual convention of the Society at Pittsburg, the week of October 4, this meeting to be in conjunction with that of the Interstate Anesthetists' Association, and the Pennsylvania Medical Society. It is possible that the Western Pennsylvania Dental Association also will join in the meeting.

In order to augment interest in the primary purpose of the Society, which is research, the Governors voted \$200 to be apportioned in prizes for the best papers on research in anesthesia, such papers to be read at the national meeting. This offer is open to all students, surgical, medical and dental practitioners in the United States.

Canvass of hospitals having revealed need for a uniform anesthesia chart, a committee of three was appointed to prepare forms. The committee consists of Dr. A. F. Erdman of Brooklyn, Dr. A. H. Miller of Providence, and Dr. E. I. McKesson of Toledo. It was also decided to prepare and publish at the earliest moment possible a monograph on the best practices in anesthesia in obstetrics.

Announcement was made of the acceptance of the following well-known physicians, dentists and anesthetists as members of the Research Committee: Dr. F. C. Mann, Rochester, N. Y.; Dr. John Evans, Buffalo, N. Y.; Dr. A. E. Guedell, Indianapolis, Ind.; Dr. Wm. Harper DeFord, Des Moines; Dr. W. E. Burge, Univ. of Illinois; Dr. Wm. Hamilton Long, Louisville, Ky.; Dr. J. Griffith Davis, Baltimore, Md.; Dr. J. J. Buettner, Syracuse, N. Y.; Dr. Tyler, Philadelphia; Dr. Isabella C. Herb, Chicago, Dr. A. F. Erdman, Brooklyn; Dr. A. H. Miller, Providence; Dr. W. B. Howell, Montreal, Can.; Dr. R. S. Hopkinson, Milwaukee; Dr. Oel E. Lamphear, Kalamazoo; Dr. W. I. Jones, Columbus; Dr. Theo. Casto, Philadelphia; Dr. S. P. Reimann, Philadelphia; Dr. John Polak, Brooklyn, N. Y.

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Florence Nightingale.—One hundred years ago a new star rose in the firmament which was destined to radiate light of the highest magnitude. In all the constellations of human achievement no single orb reflects greater glory than that clustering about Florence Nightingale, whose centenary was achieved on May 12.

With every tie of heredity and every bond of environment attaching her to the normal rôle of Victorian womanhood, her interests, enthusiasms and efforts were devoted beyond the limitations of her own home. Even her delving into the problems of religion failed to satisfy her with things as they were and her unswerving fidelity to truth and justice compelled her to take issue with those whose convictions did not permit a variation from the ancient laws of social structure and religious opinions. She was an advance agent of the modern women, and her place in history has been made permanent by virtue of an abundant energy of mind which rose above all obstacles, even that of invalidism. She was a doer of things in spite of circumstances that would have deadened the minds and bodies of most people.

Her exploits in revolutionizing the army medical organization of England after the débâcle of Scutari were indeed remarkable, because they were accomplished despite every opposition by Ministers of War, Premiers and military officials. Her personal

knowledge of affairs, her clear insight into the methods necessary to improve conditions, her fearlessness in the face of red-tapeism, her indomitable will to succor the English soldier brooked no opposition and compromised with no postponements. With an almost demoniacal possession she pursued her policies and dominated the minds of those who could assist her in her enterprises. So thoroly well accomplished were her labors that it may safely be said that the principles laid down by her more than half a century ago formed the basis of military medical organization even during the recent world catastrophe. She revised the theory of medical aid during warfare and founded a service that is to endure.

To have been successful in a single achievement is sufficient warrant for the plaudits of a multitude, but her life work was but begun when England recognized the value of her ideas and she issued her valuable contribution, "Notes on Nursing." While known to fame as "the lady of the lamp," an equal acclaim is due her as the real founder of modern nursing thru the institution which she established fifty years ago. The full meaning of the movement thus launched by her is just beginning to receive full appreciation. The alteration in nursing practice due to her initial impetus is further noted in the growth of public health nursing which takes advantage of the fundamentals so ably advocated by her

for the alleviation of suffering. She sensed the basis of nursing under all conditions, whether in connection with hospitals, dispensaries and similar institutions, or whether presented and applied thru the medium of home visitation or public demonstration. Here, again, her useful service to humanity has borne rich fruit.

Modern medicine owes much to the pioneers in thinking out the discoveries of new principles and the advocates of special theories and methods of application, but no individual has offered to the medical profession a more practical and efficient type of assistance than that made possible by the indefatigable, persistent enthusiasm of the nursing profession, founded in its modern relations by Florence Nightingale. The commemoration of her centenary with an emphasis placed upon the real issues for which she has stood is perhaps a tardy recognition of her greatness and the addition she made to the wealth of the world. Her life was one of inspiration; her ideals were those of this generation; her contributions to human happiness are for all time.

Ossification.—The word ossification carries with it a certain picture of arthritis, but in the vernacular the idea of "bone head" refers to a concept of ossification of brain tissue. It is interesting, therefore, to note that E. A. Ross, in the *American Journal of Sociology*, March, 1920, discusses ossification as a process "by which social institutions and arrangements lose adaptability and harden into rigid forms." The mental picture sketched by this term involves an unwillingness to recognize an altered situation or to think over old tasks in new settings. There is a suggestion of

laziness and an unwillingness to pause in the day's routine to inquire into the usefulness, purposefulness or real accomplishments of one's tasks. As Ross properly points out, "even the strong minds of the highly educated men tend to abide in their earlier judgments and to retain the emotional attitude of their youth." It is for this reason, in all probability, that the ideas of youth are in conflict with the persistent viewpoint of maturity. In the general history of the world impetuous youth has championed change while staid age has opposed any alteration or diversion from the well-worn channels of human thought and conduct.

While theoretically each generation ought to be able to revalue its social inheritances in order to determine their maximum potentials for current application, it is patent that social development is a continuous process and the demarkation of generations is impractical. This dynamic state of society is adequately reflected in the ever-changing aspects of medical thought, which is neither content to remain inactive nor, indeed, can it fully yield itself to dormancy. One of the greatest obstacles, however, to the freest estimation of inherent values and applied potentials is the group interest of the profession and the individual equation. Ross states, "Guild self-interest is then an obstacle to adaptive change." He points out that "In the field of law ossification is the outcome of the common law doctrine that precedents are binding." Both of these assertions possess equal application in the field of medicine. Reliance upon medical interests, the precedents of the past and the traditional theories found in books have played and are playing their part in lessening the fullest growth of medicine in terms of present-day living. The accepted con-

servatism of professional groups exists probably no more and no less in medicine than in law, theology and pedagogy. The enthusiasms of youth are quieted by contact with the stabilizing group consciousness in medicine, and protests against traditional methods require long periods of time to gain a hearing. This is particularly true where the interests of the medical group appear to run afoul of the broader lines of social interest.

In an editorial in the *Journal of the American Medical Association*, March 20, 1920, Sir Auckland Geddes, the physician at present serving as Ambassador of Great Britain to the United States is quoted as considering the medical profession with "brilliant conceptions" made up of men whose citizenship "is as divorced from their technical knowledge as is that of the speculator when he jerry-bills new slums." With a certain degree of smug complacency, indicative of a phase of "ossification," the editorial writer says, "surely there is here no stricture as to the medical profession in the United States which, in the last decade at least, has shown itself so zealous in the communal interest." It is true that there has been some measure of a medical awakening during the past decade, but the editorial writer failed to point out that the principal efforts leading the social awakening of the medical profession has originated outside of the profession. The spirit of citizenship of doctors was not the moving factor in reducing the infant mortality rate, in attempting to overcome tuberculosis or venereal diseases, in agitating for the elimination of poisonous phosphorus in match-making, in securing legislation for adequate factory inspection, the regulation of hours of labor for women, the cessation of exploitation in child labor, in securing pro-

hibition, in promoting industrial hygiene and workmen's compensation acts and countless other factors tending toward human betterment in which the force of medical opinion would have possessed a driving value. There have been physicians, to be sure, in all these movements, but they have been men of protest, fighting against precedent and against the medical guild interest.

It is proper to inquire into the degree of ossification, which obtains in medicine and retards its growth on the one hand and the continued existence of many remedies, procedures and tendencies which are hallowed by tradition and possess merely age as a justification for their existence. It is not unfair to ask the specific questions, "Is this thing of any use, and am I doing any real good?" in connection with all phases of present-day medical practice. These questions are in a sense implied with relation to the decennial revision of the pharmacopeia tho, not as rigidly as might be desired. How infrequently are these queries applied to medical teaching, dispensary organization, the growth of new branches of medicine, new phases of medical sociology and in due humility the writer may ask, of medical writings in general, not omitting editorials?

With this new connotation of "ossification" one must differentiate physical from psychical ossification. To what extent are medical journals ossified? To what extent are the leaders of the medical profession ossified? How much ossification is there in the group consciousness of the medical profession?

The Oppressive H. C. of L.—Theoretical opinions as to the effect of the high cost of living upon public health would be

easily corroborated by the study of family dietaries, alterations in homes and home environment, variations in clothing and interference with comfort, recreation and education.

In the *Survey* of April 24, 1920, are excerpts from a questionnaire completed by teachers of the University of Illinois, which give definite information concerning the particular damages or results of low salary for teachers in the face of a greatly increased cost of living. The quotation of three of these is highly suggestive:

"Staying home from scientific meetings; postponing the examination of eyes of members of my family, two dental bridges, a surgical operation and also an operation for removal of tonsils. Adoption of a vegetarian diet, with nut butter for substitute. Cutting hair of children; resoling of shoes at home. Doing without all personal service in the home, for odd jobs as well as regular help. No laundry service since 1917."

"Staying at home in summer against advice of physician; postponing dental or medical services; neglecting repairs of house; inferior grades of clothing. Don't care to state the subterfuges and expedients resorted to. Have had almost no hired help in family of four children. Entertaining of commonest kind impossible."

"My deficit for 1918-19 was \$175. Of this, \$125 made up by renting a room to students; still obliged to rent room to strangers. Postpone dental services, use butter substitutes (except children), wear old or cheap clothing, cut down of magazines and music and professional expenditures; wife does all housework, sewing and ironing. Could not afford to keep up membership in University Club."

It must not be forgotten that the above paragraphs refer to personal statements of university teachers representing a high type of citizenship and most useful members of society. Recognizing the value of physical health and possessing a high degree of pride

and self-respect these persons have found it essential for self-preservation to live according to standards of living which they know to be subversive of their own physical, mental and moral welfare. There is perhaps no great damage from home haircuts or resoling of shoes at home; and possibly a certain measure of increased personal service possesses little hazard to health, but the adoption of vegetarian diets with the substitution of nut butter is hardly to be regarded as improving family nutrition. Compulsion to postpone attention required for the care of the eyes, teeth, throat or the enforced violation of medical directions because of economic stress is certainly a direct and vicious example of the debilitating influences of inadequate salary adjustments to meet present costs. The necessity of absence from scientific meetings, cutting down of recreational activities and substituting therefor extra work, leading to fatigue, bears witness to a wastage of energy and a lowering of educational potentials as well as a gradual reduction in vigor and vitality.

These few examples could be multiplied many times to bear more forceful testimony to the seriousness of our present-day economic maladjustment, particularly among the professional classes. These facts are not unknown to the medical profession which is also feeling a degree of economic pressure that is creating restlessness, discontent and dissatisfaction. The same privations and struggles for the maintenance of a reasonable standard of living with decency and comfort are found in numerous homes whose earnings are supplied by virtue of medical practice. The usefulness of physicians probably is not being greatly impaired, but the struggle is more difficult; and the tendency to raise the cost of medical

service is evidence of an attempt to better conditions of practice and to safeguard the families of medical men against the difficulties not so easily offset in the professions of teaching or the ministry. There is a measure of greater safety in the fee schedule than there is in the salary or weekly wage.

The significance of economic unrest merits close attention. The attitude of other professional groups and industrial workers should be studied thoughtfully. In England the professional groups have allied themselves with the British labor party and have contributed considerably to its power and success. At present there is an effort to form an alliance between the professional groups and the labor groups in the United States, with a view to securing better conditions for both. In this movement, conservative physicians may have little interest because it assumes to function politically. Some members of the profession, however, struggling against increasing economic burdens will find themselves sympathetic to the general principle. Much advantage would accrue were it possible to secure constructive plans for economic betterment from the medical profession. From time to time state and county societies take action upon questions involving economic problems, but the outlook is always on the relation of the question to limited degrees of medical economics. The larger vision of social betterment and economic development is too frequently lacking in the medical discussions. During 1919 the American Public Health Association in its Sociological Section, presented a few papers upon the relation of the high cost of living to public health, and several generally applicable suggestions were made for attacking some of the problems. Outside of this single meet-

ing, very little discussion of the effect of the high cost of living upon public health has been presented. Would it not be timely for our medical societies to take advantage of present evidences of the distress and suffering to bring the medical phases of the subject before their representatives in medical societies? Should not physicians memorialize their official political representatives on the necessity for more definite and rapid action leading to a reduction in the present portentous oppression of public health by superposed economic burdens that may be corrected, palliated or prevented?

The Health Center Idea.—The extension of public health work along the line of providing clinical facilities has manifested much activity for the establishment of health centers. The Sage-Machold measure in New York State carried with it an appropriation of state funds to supplement the expenditures made by local communities for these valuable adjuncts to the health conservation program. Provision was made for the establishment of health centers by counties, cities, or consolidated health districts with a view to making available to the general public, all over the state, the advantages of every possible facility for the treatment of sickness and the prevention of disease on the basis of most modern standards.

The significance of legislation of this character is all the greater because of the tendency to oppose legislation that tends to socialize medicine. The demands of communities, however, and the influence of lay opinion are dominating factors in promoting the progress of public health machinery. The number of physicians in rural

practice is decreasing. The complexity of modernized diagnostic methods makes its availability in inverse proportion to the size of the organized population. The growth of specialism and the possibility of large economic rewards have caused a tremendous influx of practitioners into urban communities and have lessened, therefore, the medical potentials of villages and rural areas. Furthermore, trained nurses and trained public health visitors are absorbed so quickly that smaller cities and rural districts are seriously handicapped, even when no epidemic exists. Even hospital service, as a whole, is inadequate and lacking in laboratory facilities and the services of the highly specialized consultants requisite for the highest type of medical and surgical practice.

The health center idea has grown by reason of the recognized shortcomings in the public health care of citizens. The center possesses but one aim, namely, the establishment of a more efficient type of medical and surgical service. To achieve this it is patent that medical service must receive more adequate compensation and medical practice must be established on a basis of higher standards. Experience with consultants maintained after the poliomyelitis epidemic indicated the possibilities of cooperation between state authorities and local groups of physicians. Similarly, the results of such cooperation were manifestly an improvement on previous practice; and the cordial, mutual endeavors to benefit the afflicted gave valuable results creditable to all concerned.

The community idea in health work is a strongly moving force and community organization is represented in a large variety of experiments, varying from the Framingham experiment in the social con-

trol of tuberculosis to the Health Committee on a block organization plan that has been tried in many cities of the country. The itinerant health center in its various modifications as found in western states of the dietetic demonstration trains used during the greatest conservation of food indicates various attempts to solve certain phases of the health problem thru types of organizations that were unknown a decade ago. The recent development of public health work as reported in France, England, Belgium and even Russia demonstrate an increasing reliance upon community efforts, with or without state subsidies, to counteract the debilitating and deteriorative influence of conditions undermining public health. On all sides one finds a centralized form of organization leading to the application of certain principles of group practice, but enriched thru education, nursing and social service, working in close cooperation with general and special hospitals, clinics and laboratories.

The ideas and principles underlying the establishment of health centers involve a more or less complete coordination of public and voluntary health agencies and activities ready and willing to attack ignorance and poverty, illness and unhygienic conditions. Every advantage of medicine and correlated sciences is offered to all people, making due provision for the maintenance of self-respect by affording opportunities for persons of moderate means willing to pay a reasonable amount for better medical and nursing care tho possibly unable to afford equal service at specialists' rates.

It is interesting to find the influence of the American Red Cross thrown into the balance on the side of health centers and to note the marked favorable reactions of State Departments of Health to this sug-

gested means of improving standards of living, of detecting incipient defects and of lessening the incidence of the numerous afflictions which sap national vitality and undermine public welfare and efficiency. This movement merits the fullest consideration of medical organizations so that advice and counsel may be given on the basis of knowledge and understanding. Health centers deserve medical leadership and their future form and method of organization depend upon an appreciation of their aims and ideals by physicians.

Physical Education as Military Training.

Discussions of universal military training too frequently are guided by theoretic conceptions magnified by patriotic sentiment. It is interesting to read Vaughan's editorial, *Journal of Laboratory and Clinical Medicine*, March, 1920, in which he points out the possibility of hazards in mobilizing men for the purpose of military training. Based upon the war experience of rapid mobilization he found the death rate from pneumonia per one hundred thousand was nine times greater in the army than in the same age group remaining at home. The death rate from meningitis was fifteen times greater, from scarlet fever 2.5 greater, from diphtheria 1.1 greater, from measles six times greater and from all causes 1.2 times greater. It is obvious that this increase in the mortality rate largely resulted from hasty mobilization when the main purpose was to hasten the making of an army out of civilians even before it was possible to mobilize the agencies necessary to protect their health and welfare.

A peace plan for securing large camps for military training would undoubtedly involve less hurry and waste and result in

a more careful application of sanitary methods of mobilization as a prerequisite for training. Vaughan's suggestion of a plan of small group assemblies, attention to personal hygiene and two weeks quarantine before being sent to camp and another two weeks isolation in the camp would call for practically one month of preliminary sanitary attention before entering upon drills in group formation as large as that of a single company. When it is recognized that our army camps were in better sanitary condition than the average village or city in the United States, it is patent that the personal element in group contacts during collection and transportation of recruits played an important part in the development and spread of epidemic conditions in the army. No scheme of universal military training should be adopted without a full consideration of the hazards incident to the plan and the danger of increasing morbidity and mortality rates among the very group whose physical welfare is a matter of national solicitude. It is probable that mobilization could be effected without increasing the health hazard, but this would require fully one month of detailed inspection and oversight in order to prove successful.

It is further significant that Vaughan does not believe in military drill. He is an advocate of physical training in our high schools, with periodic physical examinations, in an effort to build up the physical stamina of the high school group in accordance with a distinctly scientific program. This point of view is receiving more attention than is realized, particularly by those interested in physical education. Its weakness lies in the fact that such an exceedingly small percentage of our young men are to be found in the secondary schools, only

approximately 30% ever reaching this grade and possibly only 10% passing thru to graduation. As Storey, *American Physical Education Review*, February, 1920, points out, "less than 5% of our young men and young women received any physical education at all while at school under pre-war conditions."

If universal military training is sought as a means of fitting the growing generation for physical fitness to meet their supreme obligations of citizenship, the means of preventing physical deterioration are not to be found in the plan which begins with boys during the high school period of development. The physical education program must involve informational and applied hygiene from infancy to maturity. Man power and woman power cannot be successfully developed by any scheme of universal military training thus far proposed. The citizen soldier of tomorrow is in training today. Whether the training is to be effective or not depends upon the completeness and adequacy of our system of training. The state of this merits investigation and correction as its weaknesses are manifest thruout the country. The modern concept of military training lays less stress than ever upon military drill. Physical education and vocational training stand forth preeminently as the basis of preparation for citizenship and service in war as well as in peace.

Governmental agencies have discovered and popularized the values of applied hygiene in the development of a citizen army. The war program of physical education has demonstrated its practicability and usefulness to meet the needs of the nation at peace.

Vaughan's two points are highly suggestive and rational. They evidence an interest in the well being of our future citizens

as opposed to a blind adherence to the principles of military training. The backbone of an army is the soldier private, and the backbone of a country is the citizen private. That which will advance the welfare of one will promote the well being of the other. The essence of the need of the day is a broad conception of physical education which recognizes the importance of every phase of human effort that will augment physical welfare and oppose every agency tending towards physical deterioration. Universal military training is fundamentally universal physical education.

Christian Science and Contagion.—A Christian Scientist has been fined \$1,000 as the result of a verdict of manslaughter in that he permitted his child to die from diphtheria under the care of a healer and without recourse to medical aid. Our sympathy goes out to the father and, in truth, we may question whether in the face of present laws the verdict will stand when the case is reviewed by a higher court.

Laws permit Christian Science practice and there is no specific provision making mandatory upon parents the necessity of seeking medical counsel for their children. It is true that under the law minors are wards of the state and fathers are held accountable for their treatment during health and disease. It is not unreasonable, however, to affirm that an individual who is firmly convinced of the truth of Christian Science will believe in its efficacy for all his family and not merely in its usefulness for understanding adults. The verdict of manslaughter carries with it the implication that a motive is lacking. Certainly no father, unless perverted in his moral sense or mentally unbalanced, would de-

liberately assume a course of action with a view to sacrificing his child. If it be proper to place complete reliance upon Christian Science in the treatment of disease for adults, it is equally reasonable to have faith in its performance for minors. The fact that the particular child in question was afflicted with diphtheria does not alter the situation. Had the father himself suffered from this disease and died, the question of manslaughter would not have arisen under our present guarantees of freedom of religious practices.

The salient element centering about diphtheria lies in the fact that it is a contagious and communicable disease and that failure to recognize it permits the afflicted to serve as an active carrier of the disease to others possessing less confidence in the practices of Christian Science as well as to those professing a belief in its virtues. According to the regulations of health departments, contagious diseases must be reported and physicians are held accountable, at least theoretically so, for failure to live up to their responsibility in notifying the public health authorities of the presence of all contagious diseases, including diphtheria. This regulation is equally binding upon all those who treat disease whether by regular or irregular medical measures or by religious devices.

The loss of the individual child in this instance was unfortunate, and the family loss was undoubtedly as great as it would be in other households, but the danger to the community from exposure to unrecognized diphtheria was of far greater consequence. However much we may believe in freedom of thought and action, it is by no means inconsistent to demand that such thoughts and actions shall not interfere with the health and happiness of others in the community by reason of a conscious or un-

conscious neglect of their interests. If the Christian Science healer, for example, had been punished for failure to report the contagious disease, greater justice would have been obtained. How far will the fine of \$1,000 satisfy the state for the life that has been lost or insure it against the repetition of this failure to protect the public welfare? On the other hand, it may be said, how would it be possible to demand the reporting of a contagious disease by a group of persons who deny its existence? The founder of Christian Science, with an unusual grasp of social psychology, advocated conformity to law. There is even a suggestion of a willingness to recognize the obligations resting upon Christian Scientists to observe rules and regulations relating to health until such times, after a thoro indoctrination of her views, such laws should be altered. There is a conflict of ideas, however, between the recognition of laws concerning contagious disease and an attitude of mind which affirms their non-existence. Diagnostics play no part in Christian Science and, indeed, it is poor Christian Science practice that denominates with a title any "claim" that places the individual out of tune with the Infinite.

The problem thus presented to public health administrators is by no means simple, but none the less it merits thoughtful consideration of a positive character rather than the indifference which has characterized past efforts. Now is not an opportune moment to discuss the relative values, the difference in points of view, the variations in management of individuals that exist among Christian Scientists, believers in religious healing, the numerous followers of various pseudomedical cults, and those called physicians. This much, nevertheless, is undeniable—the public is entitled to pro-

tection against communicable diseases and laws should be framed so that they will apply to all persons authorized to treat the sick. It is manifestly unjust to have one set of rules and regulations applying to physicians and another dealing with all other practitioners. Concerning methods of treatment much might be said, but this only beclouds the issue.

The most vital thought growing out of this unfortunate death is the possible and necessary reconciliation of existent regulations concerning communicable and contagious diseases and the care of the sick by all making pretense of looking after their material health. The death of a single individual is to be regretted; the endangering of a community is neither to be permitted nor condoned.

Never too Late to Learn.—According to the editor of *The Medical Press*, it is never too late to learn. "No one should be frightened away from a new study because of his years. Some, for instance, can learn to ride, to sing, or even to play a difficult musical instrument, with surprising efficiency after the age of forty, while it is rarely too late to take up the study of a new language. That a man should cultivate as many interests as possible and develop his mind to the utmost is a truism. The more he enlarges his mental range the more, in a speaking manner, will there be of him. 'It is never too late to learn' is at least a good motto, for, given the necessary willingness and determination, one can go on learning and acquiring fresh interests until the arrival of dotting old age, when, perhaps, the interests do not extend beyond the love of food and creature comforts."

The secret of success in life, is for a man to be ready for his opportunity when it comes.—*Disraeli*.



The Tragedy of Delay.—The newspapers are full of endless arguments for and against the bonus for our war veterans. Meanwhile, Congress is investigating the Federal Board for Vocational Education and the published reports do not make pleasant reading.

Between the bonus excitement and the board investigation, however, the bewildered public is losing sight of a far more important matter. Precious time is creeping steadily on its way while this matter continues to receive half-hearted attention. We refer to the veterans who were disabled and who are not getting the medical treatment they urgently need.

Must Congress wait for an official report to be delivered six months hence before the work of rescuing these men from their curable disabilities is reorganized and carried out as it should be?

The services of the most skilled and capable specialists in America should be enlisted in behalf of our soldiers who were caught by German gas and steel. How much better to spend \$2,000,000,000, which the general bonus will entail, on the treatment of the 641,900 disabled men which the Bureau of War Risk Insurance tells us are dependent on the bounty of Uncle Sam.

Colonel Evans told the house committee that not one-quarter of these men are accounted for in our military hospitals. What of the other three-quarters? Many physicians who do not claim to be especially skilled in reconstruction work are being forced to neglect private practice in order to care for men whose aging injuries cry for treatment. Impoverished families are spending their all to pay for the treatment which is beyond all shadow of a doubt a public obligation. Many and many an injury is being absolutely neglected because red tape and poverty stand between the victim and special care he needs. Each day that goes by may mean months of suffering; each month of delay may mean irreparable harm. Even

laymen know the exorbitant price Nature exacts for neglect in such cases.

It is a presidential year. Everything the politicians perform now must be done with an eye to the ballot box. The hale and hearty veterans vastly outnumber the maimed and tuberculous men. Why should a politician be so "impractical" as to worry about the votes of the few when those of the many call for his attention?

The public attitude is in a large measure responsible. The public mind would rather fix itself on the romance of war than on the wounds of war. While the agitation for a bonus for ex-service men is carried on frankly and without apology, it is with a wistful confession of shame that the disabled men call attention to their own case. What are the American people thinking of that it should be possible for the unfortunates for instance, in the Walter Reed Hospital to apologize for their plea?

They feel that "the uninjured men would not demand a bonus if they thought that they were hurting our chances," reads a memorial issued recently by these patients. "The wounded, we think, need not feel ashamed of asking relief for themselves, nor of opposing measures that will hurt their cause."

The only shame is the shame resting on the shoulders of those responsible for the delay. Some of these men are turning their faces toward France, where many of their buddies, who gave their all for the nation, lie at rest "where poppies bloom"; they are beginning to wonder who, after all, were the lucky ones?

Unless our wounded and disabled soldiers receive at once the aid and special care they must have or drag out their lives as broken men, there will be a stain placed on the pages of American history that will remain forever a reproach to the American people.

Divorce Records and Their Significance.

—Japan, which for a long time held the record for the number of annual divorces and more notorious in this respect than any other country, has yielded first place to the United States. In a report to the Senate Judiciary Committee, Francis Minor Moody, secretary of the International Committee on Marriage and Divorce, made this

announcement recently and added that more than fifty per cent. of the divorces granted in this country were based on "trumped-up charges." Mr. Moody's report was made in support of his insistence that Federal legislation was absolutely imperative and that the immediate passage of uniform marriage and divorce laws thruout the country was necessary to curb the disheartening spread of divorce. In 1916 the divorce rate in the United States was 136 per 100,000 of population, men, women and children of all ages being counted. The figures for 1920 will probably show an enormous increase. From this one is tempted to come to the conclusion that marriage is acknowledged a failure and that divorce is an admission of failure. Such a conclusion is contradicted by statistics of re-marriage of divorcees—figures alarming enough in their intimation to have evoked from Judge William H. Staake, of Philadelphia, a scathing arraignment of the utter disregard of morality and common decency which they reveal. For it becomes manifest that divorce is not so much a step toward a complete and final recognition of the failure of marriage as it is a frivolous and irresponsible evasion of one tie in order to invite another, contracted, in many cases, with little thought of making it permanent. This is clear from the fact that second marriages are in frequent instances dissolved as readily and thoughtlessly as first marriages, in order to launch upon a fresh venture, as frivolous as its predecessor. The figures which Judge Staake gives are interesting and, tho they refer only to Philadelphia, they hold good, without doubt, for any representative city. In 1918 there were 1,798 divorce cases filed in that city, a record at the time. Last year there were 2,906, an increase of 1,108, roughly sixty per cent. Eight years ago, in 1912, there were but 883 applicants for divorce. The year 1920 promises to prove another record breaker. During January there were 346 cases on the books of the courts, and should this rate continue the annual total will be 4,152, an increase of 1,246 over 1919. These figures, disturbing as they are, become even more alarming when one observes an increased tendency among divorcees to re-marry within a very brief period after they have become free. In 1912 only forty-eight per cent. of the people granted divorces

remarried. Last year the figure was sixty per cent. And, according to Judge Staake, the grounds for divorce are generally trumped up and brought about by collusion between husband and wife, one or both of whom are anxious for their liberty merely to enter into another loose and unabiding tie. For these deplorable conditions, the Judge blames the war, with its inevitable consequence of lax morals, unscrupulous lawyers who are anxious only to drum up business and a general indifference to the sacred obligations that marriage incurs. But these causes are accidental, rather than elementary. Thruout history, marriage and the marriage tie have always suffered with the advance of civilization. The more highly evolved the individual, the more difficult it becomes for him to live in peace with any other highly evolved individual. Marriage requires the suppression of one's individuality, the yielding of one's ego, the adjustment of one's personality and one's wants to those of another individual. Such an adjustment and such a surrender of one's ego becomes more difficult with the intense development of the individual. It is absurd to judge the problem only from the point of view of the frivolous person who regards marriage as no more important a tie than a *liaison*. There are many earnest individuals who enter into marriage with every hope of making it a lasting union and who, with the best intentions in the world, find it unendurable. The law should make divorce easy, if at all, for these individuals, but, in point of fact, it makes it harder for them than it does for volatile and irreverent persons who know how to evade even the severest laws. The divorce laws will never be satisfactory until they are so framed as to protect the family against adventurers in marriage while making it simpler for two individuals to separate who find that the marriage which they entered in good faith is no longer productive of the results they expected. It is not to the advantage of the state to force unwilling people to live together, any more than it is to permit frivolous people to separate. A uniform Federal law that will remedy both defects is not easy to conceive, but only such a law will adequately protect the family from the dissolution that threatens it with the alarming increase of divorce and the more alarming increase of remarriages.

Give Us More Starving Babies!—This, in a few words, is the significance of the appeals that are being issued by nearly all the governments of Europe to the populations. Everywhere, in poster form, in advertisements, in newspaper appeals, the women of Europe are being asked by those who guide their destinies, to bear, bear, bear. Give us more children, they cry. The world is depopulated, the war has taken our best men, we need more workers. To the women of Europe this appeal may seem earnest and right enough, but to us here there is something shocking and thought-provoking in this cry for children, because it is coincident with appeals circulated thruout this country for food for the children of Europe. Our children are dying, they declare; we have no food for them; their mothers cannot feed them, for they are undernourished themselves; send us food that we may save at least some of them. What can the appeal to the women of Europe mean, then, except that they are to bring children into the world in order that they may take food from those who have not enough as it is—that they endure the agony of childbirth so that their young ones may endure the agony of starvation?

The *Birth Control Review* for April refers to these contradictory appeals as "sheer insanity," and one is disposed to feel that, merciless as the phrase is, it is not altogether undeserved. Nor is the article dealing with the situation more sparing. "With one voice," it reads in part, "the controllers of Europe's destinies call for food to keep the children now alive from starving; with another voice, equally unanimous, they call upon the women of the working class and of the lower middle class to produce more children! Official and commercial France is turning heaven and earth to induce French women to breed. Clemenceau stumped the country on that issue. Millerand has gone farther than his predecessor and made the repopulation issue the chief one of his premiership. Merchants and manufacturers are offering bonuses, the government is trying to enact laws encouraging or compelling larger families. And French children are already hungry!.... These are statesmen, businessmen, politicians—the flower of the thought of yesterday—the best thinkers of the old order of things, who make these two calls, and the acme of

their logic is to crowd a planet, in which children are starving, with more children, who must be born weaklings and die of hunger. . . . There are 38,000,000 babies born into the world every year, according to the official birth statisticians of France, who have just completed a ten years' investigation. What are we going to do with the 38,000,000 children who will be born in 1920?"

What? Perhaps the women of Europe, without being aware of these intimidating figures, are, nevertheless, conscious of what bringing more children into a foodless world would mean. Will they respond freely and willingly to the desperate appeals that are being issued to them? It seems to us that the leaders in Europe are optimistic. They forget that early in the war the women were already grumbling at the use to which their rulers put the youths they had borne and brought up, that they were in a mood of rebellion, which in some instances took definite form as a vow not to bear children unless they could be safeguarded against merciless destruction of these children to satisfy imperialistic or even national aspirations. With Europe still chaotic, with peace a mere formality which dissolves in thin air at any moment, with starvation rampant in nearly all countries, will these women yield, forget what they have endured, and continue to sacrifice themselves without question or complaint? It is hardly likely. Their answer will probably be: "Provide enough food for the children already here. Let us be certain that they are not to be sacrificed. Let the world go on a little while with a smaller population until it readjusts itself. And then, when there is enough for all, we will give you more children." And this answer, inadequate and regrettable as it is, would be the one the bungling diplomats of Europe in no small measure deserve.

than ever on milk as an important item in their diet. The high price of that valuable article of food made it necessary for them both to do with less than they required and to purchase inferior grades. But now the gratifying news comes that Dr. Copeland, Health Commissioner of the city, and Loton Horton, president of the Sheffield Farms Company, are on their way to an understanding which, if it is acted upon, will provide milk of good quality to the school children in the congested districts at a price low enough to bring it within their slender means. This proposal, which Mr. Horton has submitted to Dr. Copeland and which the Commissioner has taken up with the Superintendent of Schools, will provide milk of grade B quality at 8½ cents a quart in boroughs where malnutrition among children is especially prevalent. Credit must be given Mr. Horton for this first step toward the solution of a problem which was not only vexing, but dangerous. He frankly dismisses any claims of a charitable purpose, putting the matter forward as a sound business proposition. The only obligation which the city is to assume is the provision of an adequate ice-box for each station. The company will provide the attendant, or in any case will pay his wages, and will also keep the ice-boxes supplied with ice and see that the boxes are properly taken care of. The amount of milk to be supplied to each station will be limited only by the demand. That Dr. Copeland thinks well of this plan is evident from the interest he has shown and from his announcement that he would plan a campaign to encourage a more extensive consumption of milk among those most in need of it. The price at which the milk is to be sold is 2½ cents cheaper than sold at present, and the reduction should make the nourishing fluid accessible to many to whom it is at present a luxury to be indulged with caution.

This measure is particularly welcome in view of the inability of Dr. Copeland to obtain legislation to regulate the price of milk. The legislature of New York State, which has just closed its session, will go down in history, no doubt, as the most incompetent and conscienceless machine that has ever functioned in Albany. The sordid political legerdemain which characterized it, the shameless trading of votes,

Milk for the Children.—In the last issue of AMERICAN MEDICINE the milk situation in New York City was deplored in no ambiguous terms, for at that time it seemed as tho there was no relief in sight for the thousands of undernourished children who, on account of the forbidding price of food, were compelled to depend more extensively

the thoughtless passage of bills which struck at the root of the most sacred traditions of liberty of speech and thought have caused unspeakable dismay in the heart of many a proud citizen. Add to this disheartening program of negligence and chicanery the failure to deal with the milk problem and the dismal story of the last legislature is complete. It is said that Speaker Sweet ignored numerous letters addressed to him by Dr. Copeland and failed to reply to an urgent telegram. The able Speaker was perhaps too busy defending the community against the dangers of free speech and free thought, against the danger of ideas which many thoughtful men, whether committed to them or not, see no harm in openly discussing, to give a thought to so unimportant a detail as the hundreds of thousands of children in New York City alone who suffer from both malnutrition and undernourishment. But it is the conviction of many citizens as loyal and conscientious as Mr. Sweet that the danger that lurks in free speech, the danger he has been so anxious to remove, might have been allowed to spread its baleful influence without serious harm, while attention was being given to the more pressing question of saving the health and perhaps the lives of future citizens.

General Leonard Wood.—We consider it a duty and privilege to present to our readers the interesting article on the medical work of General Wood, which appears elsewhere in this issue. (See page 247.)

A medical journal is not expected to dabble in politics and we have no such intention. At the same time in keeping with our well-known policy to emphasize the achievements of American medical men at every opportunity and to give our earnest support to every member of our profession who, true to his calling, contributes anything whatsoever to the welfare of humanity, we welcome the chance of placing before our readers the facts concerning General Wood's medical and sanitary activities. They will show the type of man General Wood is, and add no little glory and lustre to the history of American medicine.

The American medical profession cannot fail to be deeply interested in General Wood's candidacy for the presidency of the

country, as he will be, if elected, the only medical man who has ever held the office. AMERICAN MEDICINE has long maintained that the executive and administrative abilities of medical men were not sufficiently appreciated, nor taken advantage of as often as they should be. General Wood has shown such conspicuous qualifications in this direction that we are confident he will prove, if elected, one of the best and most capable presidents the country has ever had. He will bring to this, the highest office in the gift of his countrymen, an education, training and experience that will enable him to discharge its duties with conspicuous intelligence and judgment. There are many other fine, strong men who seek the presidency, but as a physician who not only has made a brilliant record in the practice of his profession, but has shown notable ability in every other field of activity in which he has been placed; we feel certain General Wood can count on the earnest and sincere support of the American medical profession. It will be intensely gratifying to the physicians of the United States to have a medical man as the chief magistrate of the country, and especially one whose career, character and achievements equip him so well and allow so little room for doubt that he will fulfil the office with credit to himself and honor to the profession of medicine.

Without seeking to trespass in any way on the political beliefs or allegiance of any of our readers, we feel that our long-avowed policy justifies us in expressing the hope that every physician in the country who can see his way clear to do so, will support General Leonard Wood for president of the United States.

Mental Tests and Actual Capacity.—

Mental measurement tests are rapidly gaining favor among many groups. Columbia University and Smith College are two prominent educational institutions which are experimenting with these tests in the admission of freshmen. Numerous other schools are doing the same thing. Perhaps an even wider use of the tests is being made by industrial corporations both in accepting new employees and in properly adjusting old employees to their industrial environment.

It is inevitable that people should be sensitive on the subject of their native mental capacity; this sensitiveness is very apt to grow with the increased use of the tests. Controversies are rife in the educational world as to their value and the tests have provoked hostility in the industrial field. It is the duty of scientists and experts, who are able accurately to value the results of a test, to educate the lay public both as to the limitations and the benefits involved in this practical application of psychology to the grading of human beings according to their intelligence.

It is not difficult to understand this sensitiveness. Unless it is intelligently met by experts it is likely to nullify the very definite values the tests have to offer industry and education. The most ignorant person feels secretly that he is more intelligent than people give him credit for being. You may call me wicked and perhaps I'll be rather proud; you may call me ugly and I'll recall that Lincoln also was ugly; you may call me uncultured and I will remind you that fabulous fortunes have been amassed and great good in the world has been accomplished by men of little education; but if you call me unintelligent I will be deeply hurt and resentful. I shall probably disbelieve you and scorn the value of your findings, or if I believe you I shall be sharply hostile to you for making the discovery.

The use of these tests in the army proved exceedingly valuable in weeding out men unfitted for intensive training and thus economizing the efforts of the instructing officers. It was this army use of the tests which gave them such wide publicity and has been a great stimulus to their wider application.

In this connection a remarkably significant story has just come to light concerning a young college instructor and a newspaperman who served as commissioned officers during the war. The instructor held a Ph. D. degree and possessed no mean ability as a poet. The newspaperman had graduated from college without, however, covering himself with honors and had subsequently drifted about the country working with various newspapers.

The instructor scored 261 out of a possible 412 points in the army test. The newspaperman scored 382 out of a possible 412, surpassing his friend by 121 points.

The implication was apparent that the newspaperman, despite his lack of interest in cultural matters, was a man of extraordinary native intelligence and would, of course, make a far more capable officer than the student. It was clear that the school of life had sharpened the newspaperman's wits, had made him alert and ready to meet any combination of circumstances instantly. How much better such a man would prove in the emergencies of the army than the slower, more plodding instructor.

But what actually happened? The instructor was by no means lacking in intelligence; he was merely a trifle slow in his reactions. He built surely. His drilling of new men proved to be thoro. He was always on the job, day and night, looking after the welfare of the men in his charge. When he was made mess officer for his company the company's mess became 100 per cent. perfect, according to the camp inspector. The officer's qualities attracted the attention of his superiors and he was transferred to the training school for officers. Within a few months his sound conclusions and careful planning won him a promotion and the very important position of senior instructor in the officers' training school of one of the larger camps.

The newspaperman was not capable of the same careful application. He had little opportunity to reveal his quick wit in sudden emergencies; instead he was called upon to do thoro laborious work which quickly exhausted his interest. Despite his intelligence his actual achievements were quite mediocre. The superior officers paid little attention to the intelligence tests. They were old army men, trained to judge their subordinates by the traditional and practical means of actual accomplishment.

There is a vital object lesson in this. The newspaperman should have been sent overseas in a hurry. He should have been assigned to hazardous front-line observation work where his evident talents would have counted. The old-fashioned army officers were inefficient for keeping him at the dull, laborious tasks for which he was little fitted.

On the other hand, the superior officers were absolutely right in ignoring the tests as a full measure of capacity. Character of thought processes is just as important in the making of an intelligent man as speed

of thought processes. There is little in the tests as developed to date to reveal the mental honesty and the tenacity of purpose of the individual being tested. Many of our best thinkers are slow thinkers and many a college freshman destined to great achievement would register a very poor score in a mental test.

It is the duty of experts, as already pointed out, to clarify the public misconceptions concerning these tests. In the detection of subnormal mentality the tests are of unquestionable value, as they are in determining the mental age of children under twelve. As a measure of the intelligence of normal adults, it should be pointed out their value is uncertain and the results need always to be checked closely with other methods of appraisal.

A Red Cross Ambulance in Albania.—

Our American Red Cross nurses in charge of the dispensary in Tirana, Albania, have found the mountainous trails by which patients come from the surrounding hamlets, so rough and precipitous that they have been forced to use donkeys as the only practicable form of transportation for ambulance purposes. The hospital space is limited, so only the worst cases are taken for indoor treatment. The donkeys used are strong and hardy, but often exceedingly small. It is said to be a strange sight to see a sick patient coming into town on one of these little donkeys, followed by the usual retinue of relatives and sympathizers. The rider is often so swathed and protected by blankets and clothing that only the head and tiny feet of the donkey are to be seen.

The illustration on our front cover, taken from a photo by Major E. J. Swift, shows the appearance of these donkey ambulances, and bears witness in no uncertain way to the resourcefulness of American Red Cross workers in the remote, far-off countries of the globe. Too great credit cannot be given to these splendid nurses, who allow no difficulties to interfere with their ministration to the sick and suffering. No danger is too great or work too hard as long as their services are needed. Their unselfishness and whole-souled devotion to their duty, without thought of themselves, offer a

splendid example to many of our laborers in this country, who are clamoring for shorter hours, and whose only aim apparently is to get the highest possible wages for the least possible amount of work and responsibility.

All honor and credit to our American Red Cross workers wherever they are. Their splendid spirit and tireless service for the sick and sorrow-laden of all lands stand out like beacon lights of cheer and promise in the dark and unhappy days the world is passing thru.

TO A CONSUMPTIVE FRIEND.

Since health thou seekest, Friend of mine,
Go learn this while you may,
That Nature's aid must be invoked,
To drive thy ills away.

No panacea waits for thee,
But do not feel dismayed,
For God's good gifts of sun and air
Are on thy side arrayed.

The fields and trees, the golden sun,
The sky and mountains blue,
Will bring you close to Nature's God,
—And win back health for you.

Then go thou forth resolved to live,
No matter what the clime,
As near to Nature as you can,
And outdoors all the time.

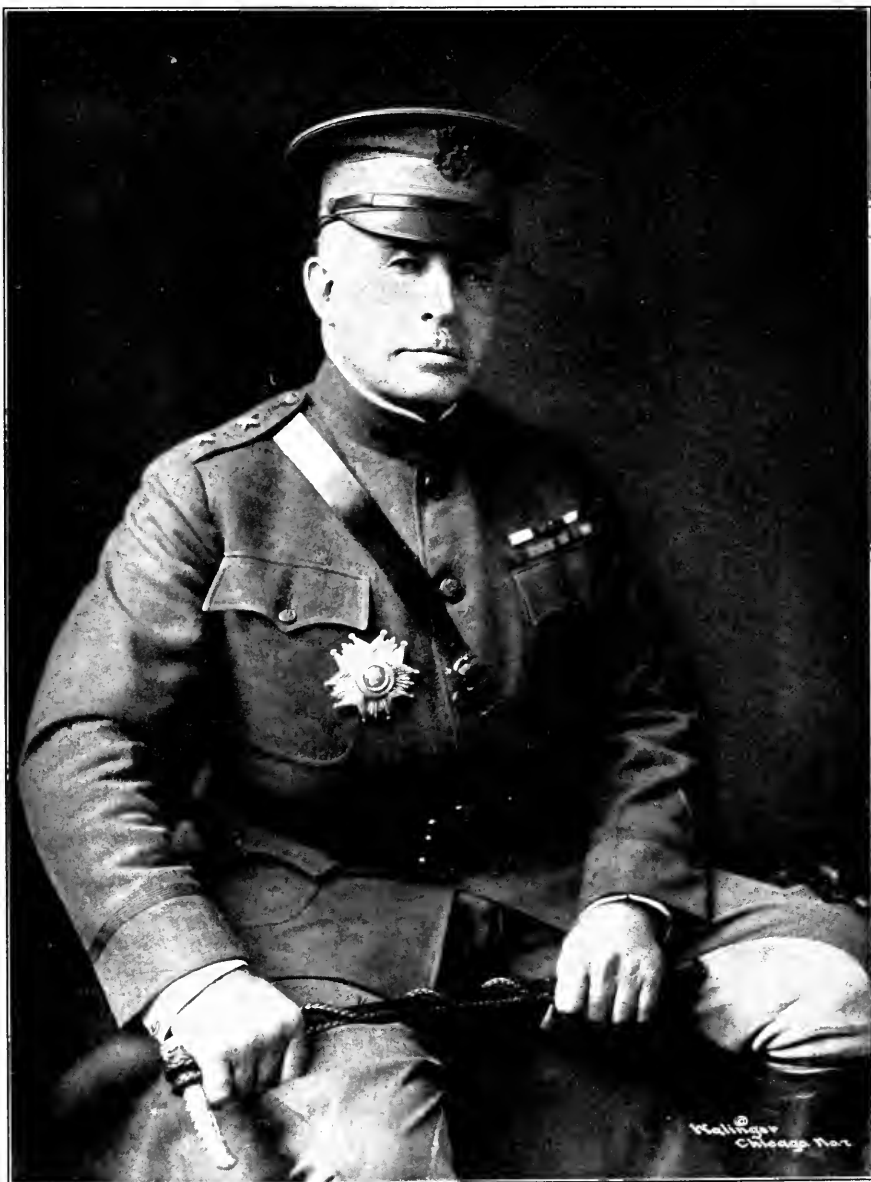
So plain a life may hold less charm,
Than one more full of strife,
But health is worth a ton of wealth,
In summing up a life.

—H. E. L.

WHEN THINGS GO WRONG.

Just buckle in, and keep your grin,
Don't ever say: "We may not win,"
When things go wrong and skies look black,
Don't magnify the foe's attack,
And wait where'er you walk about
The dismal doctrines born of doubt,
But bear the blow, and face the raid,
Don't ever say that you're afraid,
Because your whimper and your whine
Another's grit may undermine.
If you can't see one ray of hope
Don't peddle 'round your gloomy dope,
And say that things are looking ill;
If you can't cheer the boys, keep still.

—*Detroit Free Press.*



LEONARD WOOD, M. D., Major-General U. S. Army.
Harvard University Med. Dept. '84.



THE MEDICAL AND SANITARY ACTIVITIES OF GENERAL LEONARD WOOD.

BY

JOHN G. HOLME,

Author of the "Life of Leonard Wood."

"Why General Wood has never claimed any credit, whatsoever, for stamping out yellow fever is something I cannot understand."

This remark was made by Bishop Broderick, of New York City, who was in Cuba thruout General Wood's administration as Governor-General, and who probably knows as much about Wood's Cuban career as any person except the General himself. Bishop Broderick is a staunch Wood champion, altho he says, "I have fought against General Wood and with him many a time." Nevertheless, if the Bishop had his way, General Wood would be President of the United States for the next two terms.

This discussion of Leonard Wood as a doctor of medicine, surgeon and sanitarian, must necessarily be non-technical as the writer is a layman, unacquainted except as a layman with his professional skill and rank. That he stood high as a general practitioner during thirteen years of service as assistant surgeon and surgeon in the army is attested by his record. The son of a distinguished physician, trained in one of the very best medical colleges of the country, Harvard, and at the Boston City Hospital, where he served as interne, Leonard

Wood's preparation for his profession was thoro and complete. He took his examination for surgeonship in the army early in 1885 and stood second among fifty-nine applicants. Army officers swore by Dr. Wood, his ability as a diagnostician, his conscientiousness, his skill as surgeon and his resourcefulness.

Leonard Wood's father, Dr. Charles Jewett Wood, has been described by Ray Standard Baker, who has written many articles about General Wood's early career, as "a man of brilliant attainments, sturdy individuality, great physical energy and strangely taciturn, a man who attracted and won the confidence of everyone he met. For years he drove day and night over the hills between Buzzard's Bay and Cape Cod, following the rigorous, ill-paid practice of a country doctor, and many are the little homes of the fisher folk where he called and forgot to leave his bill."

Leonard Wood grew up in the village of Pocasset, Cape Cod, Massachusetts. He attended the district school of the village, then attended Pierce Academy, Middleboro, Mass. On the advice of his father he entered the Harvard Medical College in 1880, graduating four years later. He won a small scholarship and otherwise worked his own way thru college, tutoring and picking up any sort of job that he could to pay his expenses. He stood third in his class at the examination for admission as interne in the Boston City Hospital.

Mr. Baker, continuing his narrative of Leonard Wood's early life, writes:

"Dr. E. H. Bradford, who was superintendent of the Boston City Hospital while Wood was there as an interne, says of him: 'He was one of the most satisfactory assistants I have had—if not the most satisfactory. He was indefatigable in his work

and when he was told to do a thing he could be depended upon absolutely to do it, and do it immediately, and he knew how to hold his tongue.' "

At the age of 24, Dr. Wood hung out his shingle in Staniford Street, Boston. The people of the neighborhood were extremely poor. Wood had plenty of work, but it was practically all charity work. He had to resume tutoring and perform dispensary work to pay his expenses. As a physician and the son of a physician, Leonard Wood was running true to form in the pursuit of his profession of humane service. Backed by the great prestige of a Harvard Medical College diploma, he could have gone forth, settled in one of the growing cities of the West and built up a lucrative practice. Instead, he gave of his time and skill to the poor of Boston. He was so poor himself that he had hardly enough to eat during these early days as practitioner.

"I remember I used to live on twenty-five cents a day for a while in Boston," he said recently to a friend. "I'd get coffee and rolls for breakfast for five cents, a stew and a glass of milk for luncheon at the cost of ten cents, and a sandwich and tea for supper for ten cents. That was in the days when the term, high cost of living, was unknown."

It was Leonard Wood's impelling desire for the out-of-doors and adventure that led him to enter the army. He reported for duty on July 4, 1885, at Fort Huachuca, Arizona, and was assigned to the command of Captain Henry W. Lawton, famous Indian fighter, who later won a great reputation as Major-General in the Spanish-American War and was killed in the Philippines. For fourteen months Wood acted as assistant surgeon and line officer in the chase after Geronimo and his band of Apache

Indians. He led detachments of veteran troopers in chasing the Indians and at the same time attended to his duties as medical officer. In March, 1898, shortly before the declaration of war against Spain, he was voted by Congress the Congressional Medal of Honor "for distinguished conduct in the campaign against the Apache Indians in 1886 while serving as medical and line officer of Captain Lawton's expedition."

Old army officers tell many stories of Wood's skill as surgeon in the days when he served at different posts in the West and Southwest.

At Fort Huachuca he had attracted the attention of General Nelson A. Miles, and when the General met with a painful accident some time after the capture of Geronimo, and was told by the best surgeons of Los Angeles that he would have to submit to the amputation of his left leg, he sent for Wood. The General's horse had fallen with him, crushing his leg.

"Wood, the doctors tell me that they will have to cut off this leg," said General Miles. "But they are not going to do it. I am going to leave it to you. You've got to save it."

And Wood did. After a thoro examination of the limb he gave an opinion dissenting from that of the surgeons who had advised amputation. Within a few weeks General Miles was walking around on both legs, his injury healed.

When Wood was stationed at Fort McPherson, Ga., in the early nineties, he took a great liking to a young lieutenant of infantry, who was a splendid football player. Wood then held the rank of a captain, medical side, and was coach and captain of the post football team. He had heard that the lieutenant's wife was an invalid, and one day he asked him to describe her illness. I

shall tell the rest of the story in the words of an army officer who told it to me.

"The lieutenant told Captain Wood that his wife had been in a southern sanitarium for several months, suffering from a malady which had baffled several doctors who had

guarantee that I'll have her walking within six weeks after the operation.'

"The officer took the advice, and Wood was better than his word, for the lieutenant's wife was not only walking within six weeks after the operation, she was dancing.



General Wood and his family.

examined her. He then described the symptoms to Captain Wood.

"'Sounds like necrosis of the bone,' said Captain Wood. 'You bring your wife home. No use paying sanitarium fees for a case of this sort. I'll operate on her, and I'll

She had consulted seven specialists of bone diseases. It is needless to say that the husband and wife were mighty grateful and never forgot Wood's kindness and skill."

In 1895, Captain Wood was assigned to duty in Washington and became one of the

physicians at the White House. Friends of President Cleveland, who was then finishing his second term, said that he conferred on Wood the highest favor he ever was known to confer on anyone. He took Wood fishing.

After Cleveland left the White House, Wood became one of Mrs. McKinley's constant medical advisors for more than two years.

Wood's big labor in the medical profession did not begin, curiously enough, until he had left this calling and had become a general officer in the volunteer forces. It was as the saviour of Santiago de Cuba, that he rose to national eminence. When Santiago was surrendered by the Spanish in July, 1898, Wood, who had been advanced to the rank of Brigadier-General of Volunteers, was appointed Military-Governor of the city. It is almost impossible to describe the Santiago of that time. When Wood rode into the city, bodies of men and animals were lying along the road where they had been lying for several days. The open drains in Santiago were dammed with corpses of men and beasts. The death rate in this city of 50,000 population was more than 200 per day. Nearly half of the population was bedridden and the rest was too demoralized to attend even to the elemental needs of burying the dead.

Over this dying city hovered a multitude of buzzards-carrion eaters. The streets had not been cleaned for months. Santiago was known far and wide as one of the dirtiest cities in Latin America. "You could smell it ten miles at sea," said an old sea captain to a member of General Wood's staff, and now it was worse than ever.

The water supply was polluted and in volume about one-half of what the city needed. During the siege all food supplies

had disappeared into the cellars and warehouses of the hoarders and profiteers. Santiago was threatened with starvation.

Wood set to work immediately cleaning up this pesthole. It was impossible to bury all the dead. He had the bodies collected, carted beyond the city limits, soaked in kerosene and burned. He commandeered all the able-bodied Cuban soldiers, now idle, and set them to work cleaning the streets and the houses, paying them in cash and rations. Men who went to work unwillingly continued work willingly when they found themselves paid regularly higher wages than they had ever received. The Americans were in deadly fear of yellow fever and Wood resolved to make Santiago as clean as it was possible to make a city. He literally soaked the old Cuban town in disinfectants, burned all the accumulated filth and rubbish, built a new reservoir, increasing the water supply fourfold, and as a result of his labor the death rate dropped in four months from 200 a day to 10 a day.

The military governor had one brush with the profiteers of Santiago, and one only. The food dealers were charging 90 cents a pound for beef. Wood sent for them and asked them how much they were paying wholesale. Well, food supplies were very dear, they said, and they had lost heavily during the war. Wood became stern and finally drew forth the information that the butchers of Santiago were paying 15 cents a pound for beef, wholesale, whereupon the American military-governor announced that the price of beef, retail, would be 25 cents, and anyone who charged more would go to jail.

During 1899, General Wood fought his first great fight against yellow fever. Santiago at that time was probably the cleanest city in the western hemisphere. Neverthe-

less, yellow fever hit the city hard. Wood fought the plague, one might say, barehanded. Yellow fever was still regarded as a filth disease, and its method of spreading was still a mystery to the medical world. Wood was on a vacation in this country when he heard that the epidemic had struck Santiago. He hurried immediately to Cuba, taking with him tons of disinfectants. Again he scoured and fumigated the city. He even sprinkled the streets of Santiago with a solution of corrosive sublimate. Vaults and cesspools were sprinkled with kerosene and fired. After some weeks of this thoroughgoing sanitation labor, the fever actually abated. Wood's process of disinfection had been so complete that he had succeeded in driving off the yellow fever carrier mosquito, which had not yet been identified. In the course of this campaign, General Wood was stricken with yellow fever, which has a record of killing four out of five. Wood was the fifth. About a year later he contracted typhoid while inspecting the hospitals of Havana. Again his iron constitution pulled him thru.

It was not till he had become Governor-General of Cuba that Wood launched the campaign which resulted in the conquest of yellow fever. Never even has General Wood laid claim to the credit, which indisputably belongs to him, of having initiated the scientific investigation made by Doctors Walter Reed, U. S. A., James Carroll, Jesse W. Lazaer and Aristides Agramonte. For some time the theory had been gaining ground in medical circles that yellow fever was a germ disease. General Wood was an adherent to this theory. He was one of the few medical men who listened with respect to the theory of Dr. Carlos J. Finley, an old Cuban physician who had for years insisted on this fact, and

had even gone so far as to claim that the fever germs were carried by a mosquito. Up to the time the Americans arrived in Cuba, Dr. Finley was looked upon as a harmless crank. People tapped their heads when he started on his dissertations. He was a kindly, old man, an able physician, they said, but "cracked" in the subject of yellow fever.

General Wood had followed with intense interest the work which was being done by Dr. Reed and his associates. So when they called on him in the headquarters of the Governor-General in Havana, to lay before him their final plan of action, which was to result in the arrest, trial and conviction of the yellow fever carrier mosquito, they found an eager and sympathetic listener. Dr. Reed asked Governor-General Wood's backing, moral and financial, in his undertaking. Wood told him he could have all the money necessary to conduct his experiments. He then instructed Dr. Reed and his associates that when the time came for making experiments on human beings, they must take all the usual precautions in work of that sort. Only adults, sound in mind and body, who had first given their written consent, must be inoculated by the supposed yellow fever virus.

Among the first to present themselves for inoculation were Dr. Carroll and Dr. Lazaer. Both were bitten by mosquitoes which were known to have bitten yellow fever patients. Both contracted yellow fever. Dr. Carroll recovered, while Dr. Lazaer died. The camp in which the origin of the disease was finally established was named in honor of Dr. Lazaer, one of the many members of his profession to fall a martyr in the cause of human advancement.

For further discussion of the conquest of yellow fever, I quote from a paper written

by General Wood, published in *The Annals of the American Academy of Political and Social Science*:

"The *stegomyia* mosquito was found to be, beyond question, the means of transmitting the yellow fever germ. This mosquito, in order to become infected, must bite a person sick with yellow fever during the first five days of the disease. It then requires apparently ten days for the germ so to develop that the mosquito can transmit the disease, and all non-immunes who are bitten by a mosquito of the class mentioned, infected as described, invariably develop a pronounced case of yellow fever in from three and a half to five days from the time they are bitten. It was further demonstrated that infection from cases so produced could again be transmitted by the above described type of mosquito to another person who could in turn become infected with the fever. It was also proven that yellow fever could be transmitted by means of introduction into the circulation of blood serum even after filtering thru porcelain filters, which later experiment indicates that the organism is exceedingly small, in fact, that it is probably beyond the power of any microscope at present in use. It was positively demonstrated that yellow fever could not be transmitted by clothing, letters, etc., and that consequently all the old methods of fumigation and disinfection were only useful in so far as they served to destroy mosquitoes, their young and their eggs.

"With the establishment of these facts was inaugurated an entirely new method of dealing with yellow fever, a method very similar to that adopted in the treatment of malarial fever cases, only carried out much more thoroly.

"A yellow fever case, as soon as discov-

ered, was carefully isolated in premises inclosed with fine wire screens, and further precautions taken to prevent the mosquito from coming to them. The houses in which cases had occurred were sealed up and filled with formaldehyde or other gases, for the purpose of killing all mosquitoes. The same was done with neighboring houses. The effect of this method of dealing with the disease was at once apparent. The fever was checked and brought to an end at a time of the year when it is usually on the increase. This was accomplished in spite of the fact that a large number of non-immunes arrived in Havana and other ports of the island. The disagreeable and costly process of disinfection formerly in use had been practically done away with. The means at present employed is much less destructive to property and much less annoying to the people.

"Cuba is now free from yellow fever, and has been so for a considerable period. There has not been a case originating in the east end of the island for three years and none in Havana for more than a year. No epidemic of yellow fever has appeared in the southern states in all that time."

Thus the long and tragic history of this dangerous disease, which had held back the development of the tropics, was brought to a close. In 1901 twenty-nine persons per thousand were admitted to hospitals in Cuba as yellow-fever patients. In 1902 there was one case of yellow fever in the island.

American physicians had achieved one of the greatest scientific triumphs of modern times, making tropical America safe for the whole white race. That is civilization.

The deliverance of the American tropics from the subjugation of the horrible yellow-fever nightmare came with a dramatic suddenness which startled the whole world of

medical science. It was the outstanding master-stroke of the American occupation of Cuba as it conferred on humanity a world-wide blessing. Leonard Wood's labor of making Cuba a safer place thru the application of the principles of modern sanitation and health measures in general was of slower development. He began fighting his battle for sanitation in the island when he became Military-Governor of Santiago and kept up the fight until he left Cuba. He found the island suffering from tuberculosis, typhoid, glanders, smallpox and leprosy. He wiped out the filth diseases, launched an educational campaign thruout the country to check typhoid and tuberculosis. He ordered the population vaccinated to prevent smallpox, and isolated the lepers.

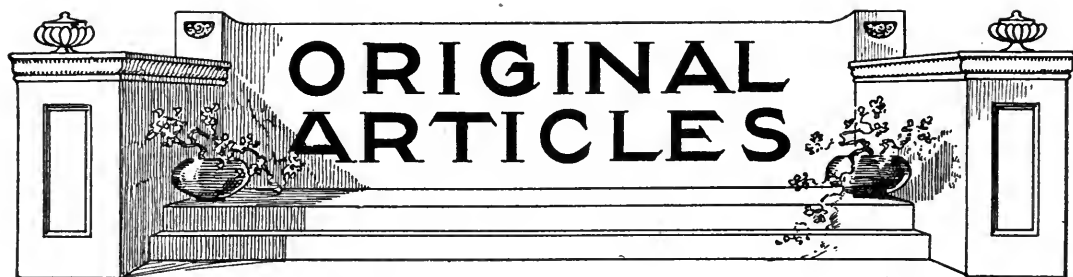
The progress of his sanitation labors may be judged by the fact that in 1898 there was probably not one single American soldier in Cuba who was not at some time disabled by disease, the mortality rate from disease among our troops being very high, while during the ten and two-thirds months ending May 30, 1902, the death rate among American troops in Cuba was 1.67 per thousand from disease; in the United States, 4.83, and in the Pacific islands, 20.26. In other words, the chances of a soldier dying in the United States were almost three times greater than in Cuba, which four years before had been unfit for a foreign-born person.

There were no trained nurses in the island when the Americans came. General Wood established training schools for nurses, and the graduates of these institutions became his most valuable health and sanitation missionaries in Cuba. Nor was all the work which he had begun for the

health of the community to be allowed to lapse when the American withdrew.

When the Cuban Constitutional Convention, which sat in Havana from November 5, 1900, to February 21, 1901, had finished its work and the new Constitution, modeled largely on our own, had been ratified by the representatives of the Cuban people, the United States Government insisted on inserting in this document several paragraphs for the protection of the new republic. These clauses, known as the Platt Amendment, were made a part of the Cuban Constitution on June 12, 1901. One of these clauses pledges the Cuban government to continue the public sanitation measures begun by General Wood and his assistants in the island. The American Government, in other words, thought so well of Wood's work for a healthier Cuba that it insisted on perpetuating it in the Constitution on which rests the Cuban Republic.

Tuberculosis of the Eye.—Fernandez (*Cronica Medico-Quirurgica*, Sept., 1919) reviews the various forms in which tuberculosis can manifest itself in the eye, adding that on account of the insidious onset the tuberculous process is liable to escape recognition. The ocular process is generally secondary, but seldom secondary to pulmonary lesions. Any eye affection running a chronic course is suspicious of tuberculosis. Tuberculin treatment is the main reliance and has proved very successful in some cases, altho it fails in others. It has given the best results in tuberculous iritis. Many have reported surprising cures under it, especially when associated with guaiacol applied locally in a 3 per cent. salve or 2 per cent. solution, or by subconjunctival injection. Darier has reported good results from subconjunctival injections of tuberculin in cases of tuberculous choroiditis; he explains this by the close communication between the subconjunctival space and the choroid. Others have reported good results combining this with subconjunctival injections of guaiacol.



THE GENERAL PRACTITIONER'S VIEW OF THE DEFECTS OF MEDICAL EDUCATION.

BY

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During the year 1919 there appeared in the *Edinburgh Medical Journal* a series of papers on medical education instigated by the Edinburgh Pathological Club. The introductory paper of the series was contributed by James MacKenzie, who called attention to the fact that in discussions of medical education in the past teachers in medical schools had furnished most of the contributions, and that the views of general practitioners had seldom been presented. It seemed to the writer that it would be of advantage to open up this untapped vein of wisdom, and after the deans of a number of Class A schools had furnished lists of representative practitioners, a circular letter was sent out to these men asking for their impressions regarding weak spots in their medical education. A gratifying number of replies were received and this paper is an attempt to classify and analyze these.

It is obvious that the answers which were received must be tinged by the personality of the writer, and reflect in a given instance the weaknesses of a particular school rather than the general weaknesses

of American medical education. It seems fair to assume, however, that if from various parts of the country there come similar criticisms in sufficient numbers, these will refer to general rather than local weaknesses. By sifting the opinions of a large number of men, graduates of various schools, we obtain a cross section of the weaknesses of medical education in the United States as they appear to the practitioner. Even if this be not conceded, it is hoped that an analysis of this kind will furnish food for thought to medical educators.

The subject matter which has been obtained as a result of the analysis of the replies to my inquiry can be grouped under various headings. Certain of the criticisms relate to matters bearing upon general educational conduct or policy, and others relate to specific criticisms of details. Not a few isolated criticisms have been disregarded as they are obviously inspired by transitory local situations.

GENERAL CONSIDERATIONS.

Not many of the writers have much to say about the *teachers*. There is some evidence that occasional individuals have had painful experiences. One suggests the elimination of "orators, faddists and the superannuated." Another suggests that all teachers in medical schools should have an

M. D. degree. Several bring up the question of the full time versus the part time clinical instructor. While we must sympathize with the individual who has had the misfortune to be orated to, and who suffered at the hands of faddists, there are really only two fundamental questions raised as to the composition of the teaching staff.

The question whether all teachers in the medical school should be medical men is one which has recently given rise to some discussion. It is not within the scope of an article of this sort to discuss the matter in detail. The writer's experience with non-medical teachers indicates that it is the man who counts and not the training. Some non-medical men may be failures as medical school teachers, others are decided successes and prove stimulating to their medical colleagues on account of their different viewpoint. Those interested in the pros and cons of this question are referred to the article of Dr. Symmers in the *Journal of the American Medical Association* for November 29, 1919, and the reply of Professor Stockard in the January 24, 1920, number of the same journal.

The criticisms on full time as contrasted with part time clinical professors favor on the whole the full time plan, tho one observer states that "the employment of full time clinical teachers is a body blow to the practitioner who thereby loses all contact with medical education." Attention is called to this criticism because it voices a fallacy which has frequently been dwelt upon and which should be corrected. The full time plan has never aimed at the elimination of all part time teachers. The employment of practitioners of ability and experience has always been regarded as an essential part of the plan.

Several of the writers have something to say about the general *point of view* which medical schools attempt to inculcate. The criticism is made that sufficient attention is not paid to teaching the student how to think, that the biologic conception of disease is frequently not preserved in the presentation of medical subjects, and that not sufficient stress is placed upon the acquisition of the scientific attitude of mind. It is suggested that not enough emphasis is placed on the social aspects of medicine, that the history of medicine should be more extensively taught on account of its broadening influence, and that the value that many young practitioners of the present day place upon their services indicates the need for the cultivation of the spirit of humility and service. In brief, the critics of this aspect of the question rather indicate that in many of our medical schools too much emphasis is placed on material at the expense of spiritual values.

It is difficult to deny that there is some truth in these particular criticisms. Most teachers who have had experience in several medical schools have become aware of the fact that the intangible something which we call the spirit of the place is not the same in all of them. We know, however, of few medical schools in which there are not teachers who are imbued with the spirit of science and service. It is true that individuals capable of handing on this invaluable essence to any considerable extent are the great teachers and are of necessity limited in number at any particular time, but few schools are lacking in men capable of inspiring occasional students.

The *general teaching methods* employed in medical schools come in for a good deal of criticism from their graduates. So far as the preclinical sciences are concerned

the most frequent criticism is to the effect that they are too often taught without reference to their future application. The frequent remark that there is a *lack of correlation* between preclinical and clinical subjects doubtless refers to this. Anyone who is interested in reading the series of articles published in the *Edinburgh Medical Journal* will be struck by the fact that medical educators themselves are aware of this. They also decry the tendency of some teachers to shut themselves up in their own little water-tight compartments.

There is no question of the validity of this criticism, but there is good reason to believe that there are factors which make for the gradual disappearance of this condition. The clinicians of the past lacked, and sad to say some of the present generation of clinical teachers lack, fundamental training in the preclinical sciences. This has retarded the application of the methods of the laboratories to the clinics and has prevented cooperation between the teachers in the preclinical and clinical years. Furthermore, under the system at present commonly in vogue the clinical professors, even when they have the necessary training in the sciences, have not the time to apply it. A generation of better trained men and the extension of the full time plan will remedy the defect.

Several practitioners criticize the emphasis which is placed on *laboratory methods* in clinical medicine. They feel that these are stressed at the expense of training of the unaided senses. The character of textbooks in general use is also remarked on, they are said to be too diffuse, too impractical and not sufficiently concise. It is also stated that the value of monographs and periodicals as contrasted with textbooks is not presented to students.

It is true that there are dangers connected with the improper valuation of laboratory methods but these are not inherent in their use. It is very important that students should realize that a laboratory test is frequently of no more significance than a clinical observation. There is room in the curriculum for proper training in both laboratory and purely clinical methods. There is little excuse for a failure to train students in the importance of current literature and the technic of using it.

There is conflicting criticism as to the relation which didactic should bear to clinical teaching. As a rule it is stated that there is too much *didactic teaching* and that the ground covered in lectures could be covered satisfactorily by the reading of a good textbook. The tendency in American medical schools in recent years has been to reduce didactic teaching and to replace it by practical work which brings the student into contact with patients. At least one critic voices the opinion that this has been overdone and that some students evidence a lack of general viewpoint on this account.

I am loathe to believe that there is any insufficiency of didactic teaching. It is probable that there is a good deal of bad didactic teaching. Most instructors try to cover too much ground, indeed this is a weakness which is apt to attack the best of them. Then there is a type of didactic teacher who confines himself to information which may readily be obtained from a textbook, and of this kind of didactic teaching nothing bad enough can be said.

There are other criticisms of teaching which are not without interest. The tendency of clinicians to overemphasize rare conditions and chronic diseases at the expense of more acute affections undoubtedly exists. A criticism that students receive

insufficient instruction as to the frequency of different diseases is also made.

There is undoubted truth in the statement that there is a tendency to exhibit patients with rare diseases in the clinics, but in a school with the clinical clerk system this is always offset by the extended experience with common diseases which the student receives. As to instruction regarding the frequency of different diseases it must be stated that it is difficult to obtain accurate figures indicating the incidence of different diseases. There are no doubt local differences causing considerable variations. Then, too, the mortality figures which are frequently available are no guide to the morbidity figures. I have obtained lists of the diagnoses made in 200 consecutive patients from a few practitioners, and the result will be found in an appendix to this article.

The criticism is also made that teaching is frequently too diffuse, that there is a lack of precision, that too much time is spent in the discussion of more or less questionable theories and not enough is given to definite and specific instructions. Attention is also called to the confusion created by the unnecessary multiplication of minor modifications of standard procedures and the tax which this places on the students' memory.

There is little doubt that some teachers fail to appreciate the truly gargantuan task which faces the student of medicine. Most teachers are specialists and their perspective as to the needs of students is often faulty. In four years time we can at best instruct the students in principles only. They can safely be left to specialize later in their careers. It would be well if each teacher would only attempt to cover the important facts concerned with his subject

and if he would attempt to simplify the subject to the highest degree consistent with clear understanding.

Another matter which comes under general consideration is *examinations*. Several of the practitioner critics point out that most examinations are not practical, and that the questions often relate to rare diseases or unusual situations. The writer has long felt that the present examination system is a farce and should be replaced by practical tests and a different kind of written examination. The purpose of an examination should be to test qualities of mind and not those characteristics which are exhibited in the highest degree by the trained parrot. There should be a definite understanding among medical schools and state examining boards as to the ground to be covered in each subject, and only common diseases and standard remedies should be covered in examinations to test fitness to practice medicine.

THE PRECLINICAL YEARS.

Many of the criticisms of the preclinical years have already been touched upon under the heading of general considerations because they bore upon the general problems of instruction rather than upon specific weaknesses. Practically the only criticism of anatomy has to do with its teaching without due emphasis upon its future relations to medicine and surgery. Little is said about the teaching of physiology except an occasional criticism to the effect that more practical laboratory work in this subject is needed. With regard to pathology several critics express the view that more autopsies should be seen by medical students and that the gross side of anatomy should be emphasized rather than the microscopic side. Bear-

ing on the relation of pathology to medical practice is the criticism of some that sufficient emphasis is not placed on the pathology of the disease in presenting patients.

It is probably true that the teaching of physiology can be improved by additional laboratory work provided the increase represents training in the use of apparatus which elucidates clinical phenomena and is capable of transference to clinical uses. At present the amount of time spent on muscle nerve experiments and similar fundamental procedures is sufficient in most good schools. The necessity for thorough training in gross pathology has never been in greater need of emphasis. There has been a tendency in recent years for the emphasis to be placed on experimental and chemical pathology, but, indispensable as these branches are, we must never lose sight of the fact that gross pathology is the chief foundation stone of clinical medicine.

THE CLINICAL YEARS.

Several criticisms regarding clinical teaching are repeated so frequently that they stand out from the rest. One of these is the view that students are not as a rule sufficiently grounded in the fundamentals of *history taking and physical diagnosis*, and with this is often combined the statement that close individual instruction is needed in connection with these studies. Several critics mention the lack of instruction in normal physical diagnosis and we suspect that perhaps recent experience with examination for the draft may have had something to do with opening their eyes to this aspect of the situation.

We are quite sure that criticisms regarding history taking and physical diagnosis will fall to the ground when all schools

control their own teaching hospitals and supply them with a graded resident staff. The criticisms probably come from graduates of schools which had not in their day adopted the clinical clerk system. Indeed, it is fair to say that it is only thru a well conducted interne year that students are likely to become thoroughly familiar with history taking and physical diagnosis.

Another criticism which is frequently voiced is the futility of amphitheater clinics in which the objects most in evidence are the back view of the surgeon and his assistants. Less criticism of medical amphitheater clinics is voiced but even these do not escape, and the old time bedpost clinic, essentially a lecture during which the lecturer affectionately rested one hand upon the corner of the bed in which reposed the patient, does not escape unscathed.

Most medical graduates have probably felt doubt at some time as to the value of large amphitheater clinics, particularly operative clinics. Nevertheless this form of instruction has its function. It is not that the patient always shows very obvious lesions, but that the facts brought out in connection with a specific case often stick in the mind better than those presented as part of an abstract discussion. A properly conducted clinic is to be regarded as an opportunity to elaborate on the briefer discussions of ward rounds rather than as a chance to give a didactic lecture with a human text. Students should always participate in such clinics.

The criticisms regarding *therapeutics* are somewhat contradictory. There are, however, certain criticisms that occur frequently. Prominent among these is the criticism that altogether insufficient attention is paid to instruction in *dietetics* and in *physical therapy*. There is a good deal of

criticism as to the lack of instruction in the writing of palatable prescriptions. Some critics regret that as students they had little or no experience in actually administering treatment, particularly such treatment as hypodermic medication, enemata, and therapeutic measures of this sort which involve active participation on the part of the physician. One practitioner criticizes the teachings of his time as failing to emphasize the importance of the individual in treatment. He wisely remarks that the individual often needs more careful treatment than the disease. Another criticism of the teaching of therapeutics is that altogether too much attention is paid to remedies of dubious value, and that not nearly enough separation of the wheat from the chaff is attempted. It is also stated that not sufficient emphasis is placed on the little things that make for comfort, things which are known by quacks, nurses and old women, but which must often be learned by the practitioner at the expense of painful and sometimes humiliating experience. One lone critic states that too much therapeutic nihilism is taught.

It seems to the writer that many of these criticisms are valid. It is reasonably certain that if the regular medical profession had been trained in the methods of physical therapy and understood the indications for and the applications of hydrotherapy, massage and similar methods, many of the cults and fads of recent years would have failed to develop. It is certain that the instruction of medical students in dietetics has been grossly inadequate in many good schools. It is also true that too much time has been spent in the consideration of remedial measures of dubious efficiency. This last condition is, in part at least, due to the attitude of state boards whose ex-

amination papers still too frequently contain questions which relate to remedies seldom used and of doubtful importance. It is very necessary for both medical school faculties and state board members to agree on a list of standard remedies to the consideration of which both instruction and examination should be limited.

THE DEFICIENCIES.

So far we have discussed the criticisms which concern medical school methods and the medical curriculum as it exists today in the average institution. We find, however, that many of the criticisms refer to lack of instruction in certain phases of medicine. The most common complaint so far as the clinical years is concerned is the lack of instruction in *minor ailments* and minor details of practice. The form which this criticism takes varies very considerably. One critic looks at it from the point of view of the handling of office patients and the treatment of the little things, another suggests the establishment of dispensary clinics or dispensary courses whose main purpose shall be the discussion of minor ailments. Another speaks of lack of instruction in minor details of technic, mentioning under this head the method of approaching the patient, the use of the thermometer, the taking of the pulse, the technic of administering hypodermic medication, the obtaining of blood for cultures and serologic examinations, thoracentesis and the like.

There is doubtless truth in the criticism that in many schools the minor ailments are inadequately considered. We believe that this situation will improve as the dispensary is more adequately developed. There has been too much tendency in the

past for hospitals to treat their dispensaries in a stepmotherly fashion, and medical schools have usually delegated the conduct of the dispensary to the younger and less experienced instructors. All this must and will change for it is obvious that it is in the dispensary that the beginnings of disease must be studied. Furthermore, the increasing socialization of medicine will throw an increasing burden on this part of the organization. The dispensary is capable of furnishing even at the present time adequate material for training the student in minor ailments and minor technic.

Several graduates deplore the lack of training in most medical schools in personal and occupational hygiene, in *public health* in the broader sense, and in preventive medicine. Several state that not enough instruction is given in *psychology*. It is evident from the perusal of their remarks that they refer not merely to abnormal psychology as it bears upon the study of insanity, but also to those aspects of psychology which relate to normal human conduct and would be of value in their bearing upon therapeutics and the ordinary handling of patients. Various individuals lament the lack of sufficient consideration of the various specialties such as dermatology, neurology, radiology, urology, psychiatry, and medical jurisprudence.

The writer has long felt that medical students should receive instruction in the principles of public health during their undergraduate course and that preparation in psychology was necessary to the study of psychiatry. The extent to which courses in these subjects and in the specialties can be introduced into the curriculum is debatable, and brings up the much discussed general question of when a student should be allowed to begin specializing.

THE BUSINESS SIDE OF MEDICINE.

So many writers urge that instruction should be given in the business side of medicine that special consideration is given to this. While the underlying idea is evidently the same, different critics have different views as to what is meant by training in the business side of medicine. One man suggests that students should be informed regarding the expenses connected with the opening of an office and the general conduct of a practice. Another suggests that the question of hospital finances should be touched upon. Still another emphasizes the need for a few lessons in investment finance and comments on the well-known fact that the names of the medical profession have long been prominent on so-called "sucker lists." A lack of training in the methods of salesmanship is emphasized, and the necessity for instruction as to the methods of bookkeeping, legitimate advertisement, protection against sharpers, and the legal side of the practitioner's responsibility is suggested. It is also intimated that instruction in the handling of people should be given.

One must concede that there is a business side to medicine, and that certain kinds of knowledge concerning it can and should be transmitted. There is no earthly reason why information should not be available to medical students and physicians as to the details of equipping themselves for the adequate practice of their profession and as to the financial methods which are best adapted to the business conduct of their life work. At the same time one may perhaps question whether very much can be done except by example in the way of instruction in qualities like tact and horse sense if these or their rudiments are

not already innate. It is conceivable, however, that a successful practitioner might be able to import some knowledge of the art of medicine to the younger generation.

THE INTERNE YEAR.

There is plenty of evidence that the successful practitioner realizes the importance of the interne year. Some demand that it be made obligatory, while others merely insist that it shall be taken. There is a decided tendency among the critics to emphasize the importance of utilizing the interne year for purposes of instruction to a much greater extent than has been the case in the past. Indeed, this feature stands out with great prominence, and well illustrates the trend of professional opinion and the deficiencies which have existed in connection with interne service.

FINAL CONSIDERATIONS.

It is not to be expected that the practitioner of medicine should have the same viewpoint as the teacher of medicine. It is natural that in a series of criticisms of this sort the critics cannot see all the difficulties that stand in the way of reform. Those who suggest additions to the already overcrowded curriculum do not quite appreciate the degree of overcrowding. Those who advise deletions or changes sometimes forget that the curriculum is to some extent fixed by the demands of the State Examining Boards. To the writer there seem to be two or three possible changes capable of improving the present situation. These are: (1) The adoption of an obligatory fifth year to be spent under supervision either in a hospital or a laboratory. During this year much more instruction must be given than has previously been the case. (2) A mutual agree-

ment between the State Examining Boards and the medical schools as to the content of the medical curriculum so that only necessary subjects shall be covered in the course and in State Board Examinations. (3) A change in the character of both medical school and State Board examinations with the emphasis on practical examinations and tests of ability to think rather than ability to memorize. (4) The relegation of the study of more than the barest outlines of the specialties to the postgraduate period.

• APPENDIX.

The following two tables represent an analysis of nineteen hundred diagnoses furnished by general practitioners in various parts of the country. Each practitioner furnished the diagnoses in approximately two hundred consecutive cases. These were then analyzed by groups and are printed in the order of their frequency. In addition, the individual diseases of which more than ten cases were reported are also printed in order of their frequency. While a very much larger series of cases would be required to give a really accurate idea of the kind of diseases the general practitioner is likely to meet, the list is perhaps not entirely without value. I am indebted to the following gentlemen for the information on which the lists are based: Dr. Harold Bowditch, Dr. M. B. Call, Dr. Charles D. Enfield, Dr. W. K. Fast, Dr. H. P. Greeley, Dr. R. C. Halsey, Dr. W. B. Hardesty, Dr. R. T. Mauer, Dr. Frank R. Nuzum, Dr. Charles J. Reilly, Dr. E. L. Tuohy.

TABLE I.

Infectious diseases	474
Gastro-intestinal diseases including infant feeding	252
Cardiovascular diseases	117

Diseases of the lymphatic system, including tonsils	114
Diseases of the genito-urinary organs.....	113
Pregnancy and its complications.....	96
Diseases of the nervous system.....	94
Skin diseases	89
Gynecological affections	81
Diseases of the locomotive organs.....	73
Abrasions, sprains and slight injuries.....	71
Diseases of the glands of internal secretion	62
Diseases of the ear, nose and throat including the mouth	59
Boils, abscesses, carbuncles and superficial infections	39
Diseases of the liver and bile passages.....	34
Poisoning, including poisonous drugs and anaphylactic poisoning	30
New growths	27
Diseases of the blood-forming organs.....	24
Miscellaneous	24
Diseases of the eye	23
Diseases due to worms	3
Trophic and vasomotor disorders	1
	1900

TABLE II.

Tonsillitis	102
Coryza	68
Influenza	66
Tuberculosis	61
Bronchitis	58
Appendicitis, Vaccination, Normal Pregnancy, each	46
Gastritis	44
Gonorrhea	43
Constipation, Minor accidents, each	35
Wounds, incised and punctured	33
Syphilis, Uterine diseases, each	31
Rheumatic fever	29
Pneumonia	27
Dermatitis	26
Dysmenorrhea, Neurasthenia, Malignant growths, each	25
Chronic arthritis	24
Valvular disease of the heart	23
Diabetes, Fractures, Hypertension, each....	21
Diphtheria	20
Goiter, non-toxic	19
Cystitis, Myocardial diseases, Hernia, each..	18
Diseases of the gall bladder, Eczema, each..	16
Secondary anemia, Abscesses, Minor infections, Gastric neuroses, Hemorrhoids, each	14
Goiter, toxic; Abortion, Menopause, each....	13
Neuralgia, Functional diseases of the heart, Arteriosclerosis, each	12
Peptic ulcer, Asthma, Lacerations of the cervix, each	10

If you want to be miserable, think about yourself, about what you want, what you like, what respect people ought to pay you and what people think of you.—*Charles Kingsley.*

THE MECHANICS OF UNCONSCIOUSNESS.¹

BY

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The mechanics concerned in the production of cerebral manifestations are divided into two general groups. *First*, irritation. This is produced when deviation from the normal assumes the form of congestion (either active or passive) or edema. *Second*, when the condition passes beyond the congestive stage and the blood is actually "squeezed out" of the capillaries of the brain and paralysis results—hence the paralytic stage.

To appreciate the mechanics of these two stages, the physiology of the cerebral circulation must be kept in mind. *First*, the rigid capsule of bone in which the brain is enclosed. *Second*, it is without vasomotor mechanism in the walls of the vessels. (?) We must also consider the partitions of the skull; the falx cerebri, the tentorium and the connecting foramina. In studying the physiology of the brain one must also bear in mind the cerebrospinal, venous and arterial conditions which have to do with pressure within the skull.

It is probable that irritative symptoms are exaggerations of response rather than true origination of activity in some parts of the brain; that is to say, evidence of intense local stimulation—anything approaching the intensity of stimulation of the brain by the faradic current—probably never occurs under any circumstances either in injury or disease. The conception that a fragment of bone or other foreign body in the cerebral cortex can produce

¹Read before meeting of the Surgical Staff of the Sts. Mary and Elizabeth Hospital, Louisville, Ky., March 5, 1920.

convulsions ("fits") just as does faradic stimulation, cannot be confirmed clinically or experimentally. Anyone who has had much experience with brain surgery knows that mechanical stimulation, such as cutting, ligating, manipulating, etc., produces no response.

When it is remembered that the brain normally is constantly receiving responses obviously to stimulate it, the proposition becomes clear that an increase of excitability will satisfactorily account for the apparently spontaneous nature of irritative phenomena, and that all the acute disturbances, such as depressed fracture, hemorrhage, meningitis, encephalitis, abscess, tumors, etc., are evidences of increased excitability. It has been found experimentally that the excitability of the cortex cerebri bears a close relationship to the condition of the circulation within it. Venous congestion of different degrees including stasis causes increase in excitability, while anemia causes the opposite interference with function, *viz.*, paralysis. Any portion of the brain tissue deprived of blood is always totally paralyzed, whereas portions filled with venous blood show heightened irritability.

Having defined the circulatory conditions normally existing within the skull, we must now consider the effects of disturbances of these conditions. The commonest and most important is the introduction within the skull of a foreign body which limits the space normally filled by the brain and its accompanying fluids. Of such intrusions hemorrhage of arterial origin and occurring outside the brain may be taken as a characteristic example. When an artery has been ruptured there is nothing to check its bleeding (provided blood pressure is fairly normal) excepting the pressure existing within

the skull. If intracranial pressure instead of being that of the veins were equal to that in the arteries, obviously no bleeding could occur. This is never true with head injuries, unless as the result of concussion the blood pressure is very low. Suppose the carotid pressure, then, to be fairly normal the wounded artery will bleed freely. The skull being quite rigid to such pressures as we are concerned with here, and its contents as a whole being incompressible, free bleeding can be accommodated only by displacement of some of the cranial contents. Obviously the contents under lowest pressure would be the most easily expelled, and thus bleeding from an artery will have the effect of causing, and will occur *pari passu* with, expulsion from the skull of blood from the sinuses and veins and some of the cerebrospinal fluid. The latter will be displaced downward thru the foramen magnum, and will also escape into the sinuses. Inasmuch as the total capacity of the veins and sinuses is considerably greater than that of the arteries, it is clear that expulsion of cerebrospinal fluid and venous blood may continue until the veins and sinuses have been compressed to a certain point without the circulation being embarrassed. This point is reached when the total venous outlet is reduced to the size of the total arterial inlet. Until then the escape of blood from the brain will be unimpeded and will be equal to the intake. Therefore, there is no venous congestion, consequently no symptoms will arise, and the hemorrhage is thus far clinically latent.

Presuming that hemorrhage continues, it must obtain space for itself by causing further compression of the veins, and will then actually diminish the accommodation for venous blood and its escape from the skull below the necessary supply which is

still coming from the arteries; consequently a condition of venous congestion is established. Compression of the venous channels may continue until the sinuses of the dura actually collapse. During this stage the cortex cerebri becomes visibly cyanotic. These are the physical processes which result in the pathologic condition of increased excitability and the clinical condition of irritative symptoms.

If hemorrhage continues it must gain room by displacing fluid which is at a higher pressure than that which has already been displaced, *viz.*, that in the capillaries of the brain. This involves actual compression of the brain substance itself which diminishes in bulk and becomes obviously white in color as the blood is "squeezed out" of its capillaries. In his experiments Cushing was able to watch the color change from the blue tinge of cyanosis to the dead white of anenia. This physical condition of anenia is, of course, accompanied by the pathologic state of inexcitability of the cortex and the clinical manifestations of paralysis. This is the second condition noted.

Thus far we have, for the sake of clearness, dealt with the circulatory effects of an intracranial compressing agent as if the latter were diffused over the entire surface of the brain and produced disturbances which were equally distributed thruout the whole cranial cavity. Such, however, is never the case in practice, and conditions of this kind are seen only experimentally when hemorrhage is simulated by injecting fluid into the subdural space. In actual practice, where the cause is almost always hemorrhage, this is essentially local, and exercises its effect primarily upon the brain in its vicinity only. However, the disturbances produced locally are precisely as described and the stages are the same, *viz.*,

compression of the veins without obstruction, compression of the veins with obstruction and venous congestion, and finally anemia.

The symptoms will be first irritative and then paralytic, tho they will point to implication of a portion rather than the entire brain. Again, it is obvious that the part nearest the hemorrhage will be more affected than portions distant from it. Thus at one and the same time the brain in immediate contact with the hemorrhage may be in the stage of anemia and paralysis, while further away there will be a zone of brain tissue in a condition of venous congestion and increased excitability, and beyond this again the brain will be normal. It is a simple corollary from this arrangement of the disturbance that the congested region will, as a rule, be more extensive than the anemic region, and consequently it will be a clinical fact that symptoms of increased excitability will be more widespread than symptoms of paralysis.

As hemorrhage (or other cause of compression) increases in extent its sphere of influence on the adjacent brain will expand until possibly symptoms are present showing that the entire brain is to some extent disturbed. Implication of the entire brain, however, until the patient is actually moribund, will not be of equal intensity everywhere, but will always show a gradation of diminishing disturbance from the region of the hemorrhage toward more distant parts. In a broad way it may be stated that the extent of implication of any given part of the brain will be in inverse relation to its distance from the lesion. If the cranial cavity were of simple form, its interior unbroken by septa and the sensitiveness of the brain to disturbance equal thruout, the rule would be absolute. Since this is far

from being the case, there are many complications to be considered and many corrections to be applied in actual practice.

Concussion.—By concussion is meant impact of the inbending skull on the underlying brain. In spite of its soft consistence the brain when struck behaves like a solid body and transmits a considerable part of the force with which the skull is driven upon it. The effects of this direct component are found chiefly in the path thru which it is transmitted, *i. e.*, in the direction in which the skull strikes the brain and a straight line prolonging this direction.

Concussion is a condition of widespread paralysis of the function of the brain which develops as the immediate consequence of a blow on the head, has a strong tendency to spontaneous recovery, and is not necessarily associated with any gross organic change in the brain substance. The sudden loss of consciousness and the generalized muscular collapse are clearly paralytic signs and suggest the site of the paralysis in the cerebrum. The proximate physical cause of paralytic lesions of the brain is anemia of cerebral tissue. This is produced by momentary hyperacute compression of the brain which tends to cause capillary anemia varying in severity with the amount of encroachment on the intracranial space by the inbending skull.

Cerebral Irritation.—The patient recovering from the stage of concussion, which is unduly prolonged, passes into a condition resembling a greatly exaggerated state of reaction.

Compression.—The relationship between impairment of cerebral function and impairment of consciousness cannot be stated in definite terms. In a general way it may be said one-half to two-thirds of one hemisphere of the brain may be afflicted before consciousness is much impaired. The rate at which cortical disturbance ensues is the important factor in distinguishing this condition. Three fairly definite types have been observed:

(1) Rapidly developing pressure over one hemisphere, which is sufficiently intense to produce anemia, causes profound coma.

(2) Rapidly developing pressure of such grade as to produce venous engorgement, leads to irritative symptoms, which

always precede coma. This stage always occurs in the early period of large intracranial hemorrhage. The patient is at first irritable, rapidly becomes violent; he shows little or no confusion, but is apt to be insolent, aggressive and resentful; the state is often absolutely indistinguishable from alcoholic excitement for which it is frequently mistaken. A few hours' observation soon settles the question so far as alcoholism is concerned, as the patient will develop coma with the characteristic pressure symptoms.

(3) Very slowly developing pressure, tho it may be widespread and severe, produces a very different picture. The essential features are slowness and variability of the symptoms. Dulness and drowsiness of moderate degree without much confusion, often restlessness and mild delirium at night, are the usual changes of consciousness. Finally the limits of compensation are reached and rapid profound change occurs.

Edema of Contused Part.—The occurrence of edema is probably the commonest complication to which are liable all morbid conditions of the brain, whether traumatic, inflammatory or neoplastic. It is quite likely that the brain is no more liable to edema than any other organ, but its situation within the skull makes it sensitive to an amount of edema which would produce no effect elsewhere. There is no room in the skull for edema; all the available space, with a very narrow margin, is needed for the brain and the satisfactory functioning of its blood supply. As soon as a given part of the brain becomes edematous the circulation of blood thru it is threatened, and according to the severity of the condition more or less impaired. This impairment takes the form of impeded circulation in the veins thus causing venous congestion. From the nature of the case it is obvious that the pressure of the edema-fluid will tend not to rise above that within the vessels from which it is derived. Consequently pressure from it will not be sufficient to cause actual anemia of the brain substance, at any rate in the non-inflammatory forms of edema. Pathologic considerations, therefore, bring us to the important practical conclusion that symptoms due to edema alone are irritative rather than paralytic.

Edema may develop in consequence of injury to the walls of the cerebral vessels. Of such injuries the most important are contusion, prolonged closure from pressure and inflammatory processes. The form which follows contusion tends to develop fully within about forty-eight hours after the injury. No similar limit can be placed on its persistence, and its manifestations may last for many weeks after the accident. In such cases no doubt it is maintained by the presence of much gross contusion and possibly hemorrhage as well.

The edema following a contusion may, to a certain extent, spread into surrounding parts. The swelling causes pressure upon and obstruction of the adjacent veins, and this in turn leads to further transudation, and so on. It is probable that the process tends to diminish in intensity away from the primary focus, and that in an otherwise healthy brain a really extensive spreading-edema does not develop from a single isolated lesion. The multiple foci of contusion which are present in any fairly severe case can no doubt give rise to a practically general edema of the brain. When a patient is suffering from edema of the brain following contusions the symptoms may be expected typically to indicate a widespread disturbance of moderate intensity.

SOME PITFALLS IN DIAGNOSIS OF EXOPHTHALMIC GOITRE.

BY

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In no other morbid condition are there greater possibilities of error in diagnosis than in exophthalmic goitre. No other disease is so elusive in manifestations, now simulating this, again that picture of acute or chronic affection, as exophthalmic goitre. It is no wonder, then, that the vast majority of cases reach the endocrinologist in the advanced stage of the disease when the vital organs have undergone more or less permanent damage. Indeed, not a few

come to our attention with beginning or well established loss of circulatory compensation—cases which, had the diagnosis been made sooner, would have been completely and permanently cured within a few months. The question naturally arises, what are the most common pitfalls in the diagnosis of this disease?

1. The *term* exophthalmic goitre is misleading, implying the essential existence of exophthalmos and goitre in this disease. It is a well known fact among men of wide experience in endocrinology that one or both of these signs may be absent even in a well marked case. At least it may be said that exophthalmos and goitre are often absent in the early stages. Exophthalmos, tho present in the vast majority of marked cases of Graves' disease, usually occurs after the patient has been ill for weeks or months, frequently beginning as a mere stare on active attention, tho otherwise the eyes may appear normal for a long period of time. Goitre or enlargement of the thyroid, tho a cardinal symptom according to the textbooks, need not be present in a well marked case of exophthalmic goitre or Graves' disease. Some of the most malignant forms of the disease have been characterized by an absence of thyroid enlargement, and contrariwise, many of the milder or questionable types, *i. e.*, cases in which other cardinal symptoms were difficult or impossible to obtain for a period of time, presented a well marked goitre. In this respect, the thyroid gland may be compared to the biceps muscle of a young man about to become a blacksmith. The excessive demands made upon the muscle will cause it to become enlarged in course of time; it may be weeks, months, or years, before this muscle assumes double or triple its former size, depending upon the susceptibility of the individual's muscular tissue to undergo hyperplasia. There is a period of transition, however, dating from the time of the assumption of duties as blacksmith to the incidence of quite evident muscular enlargement, during which there is no evident increase in size of the muscular structure, and this period of transition varies with individuals. And so it is with the thyroid gland which suddenly assumes an

increased functional activity (for reasons not yet understood), and depending upon the individual susceptibility of this structure to become enlarged, will it become goitrous quickly or slowly. There is a transitional period during which time, tho there is no evident goitre, the thyroid function is so excessive as to present all or nearly all the other signs and symptoms of Graves' disease.

Thus, it can be seen that in the absence of exophthalmos, of goitre, or of both, at least for a time, a patient may be a subject of Graves' disease. It is the incipient form of the affection that is the most likely to lead us astray, the so-called *forme fruste*.

2. *Hysteria* and *neurasthenia* are often terms applied to cases of hyperthyroidism. Tho these unfortunates may present neurasthenic and hysterical phenomena, these symptoms are merely constituents of the symptom-complex, and care must be taken to examine the patient both clinically and from a laboratory viewpoint, in order to exclude the possibility of the existence of hyperthyroidism before venturing a diagnosis. It must always be borne in mind that the subject of Graves' disease is perpetually in a state of central and peripheral nervous excitation. The emotions run riot, insomnia is usually complete, there is a continuous tremor, not only of the outstretched fingers, but of the entire body and even the unstripped muscular fibres of the gastro-intestinal tract are in a state of excitation, as evidenced by the frequently recurring attacks of nausea, vomiting and diarrhea often seen in Graves' disease.

3. *Pulmonary tuberculosis* is at times difficult to differentiate from the early stages of exophthalmic goitre. This is due to the fact that in both diseases there are several things in common, among which are deficient respiratory expansion, dyspnea on exertion, marked weakness and loss of weight, an afternoon rise in temperature of varying degree and nocturnal hyperhidrosis. Occasionally, latent or even active pulmonary tuberculosis may coexist in a subject of Graves' disease, thus increasing the difficulty of the diagnostician. In the ordinary case of Graves' disease, however, the difficulty is not as great as it seems, for careful observation and the application of

a few laboratory tests will clear up the diagnosis, even in borderline cases.

4. *Diabetes mellitus* is also a condition frequently confused with exophthalmic goitre simply because both present as clinical phenomena marked reduction in weight despite the fact that the patient's appetite and thirst are excessive, hyperglycemia, polyuria and glycosuria. Here again, diabetes may coexist with hyperthyroidism. But, to repeat, the uncomplicated case of Graves' disease should offer but little difficulty in diagnosis if the medical attendant but exercise a reasonable amount of patience and perseverance. The important essential in this connection is to avoid hasty conclusions.

5. *Simple or non-toxic goitre* is too often placed in the category of toxic or exophthalmic goitre. This error is more often made by surgeons than by internists, thus explaining the unreliability of statistics offered by surgeons with relation to surgical cures of exophthalmic goitre. In this connection I might say, in unison with other endocrinologists, that I have never seen an authentic surgical cure of exophthalmic goitre. The surgeon who is confronted by a goitre patient only too often fails to make the necessary clinical and laboratory tests; a patient with simple goitre becoming nervous and acquiring a somewhat rapid pulse as the result of the visit to the doctor's office, is classified as one suffering with hyperthyroidism or Graves' disease; operation is performed and lo! a surgical cure of Graves' disease. As a matter of fact, all the surgeon did was to remove a cystic or adenomatous growth in relation with the thyroid gland, and nothing more. Again, surgery fails to recognize in the vast majority of cases, the difference between the so-called *Basedowified* goitre and genuine Graves' disease. The former, consisting of an oldstanding simple goitre which has suddenly become toxic (but is not really to be classified as Graves' disease), is mistaken for the latter, operation is performed, the patient usually gets well, and we have another surgical cure of exophthalmic goitre!

It can readily be seen, then, that the diagnosis of exophthalmic goitre is both simple and complicated: simple, if the medical at-

tendant be skilful and takes sufficient pains to make a careful analysis of the patient's symptoms and signs with an open mind, a mind not biased by preconceived notions; complicated, if the medical attendant is not thoroly conversant with the recent advances made in the field of endocrinology, and if he approaches a given case with the haste characteristic of the overtaxed attendant at the out-patient department of our large hospitals.

Of the few most important conditions herein mentioned with which exophthalmic goitre may become confused, the condition which may lead to the greatest confusion is simple or non-toxic goitre. Neurasthenia, hysteria, pulmonary tuberculosis, diabetes mellitus and other morbid affections, are sooner or later differentiated from Graves' disease during their course. The harm wrought by a late *correct* diagnosis is not as great as the damage occasioned in a patient operated on who should not be touched by the knife. In other words, I mean to state most emphatically that, tho I credit surgery with excellent results in the treatment of simple goitre and *Base-dowified* goitre, I must, in unison with others who succeed in curing Graves' disease by non-surgical measures, unreservedly deny the right of surgeons to interfere in this disease. The knife is incapable of restoring to normal a patient suffering with an affection the etiology of which is as universally distributed as that of exophthalmic goitre; surgery cannot prove its ability in this direction; non-surgical measures in the hands of the competent endocrinologist are capable of affecting complete recovery in nearly every case offering a fair degree of cooperation.

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SODIUM CHLORIDE.

BY

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Sodium chloride has been utilized by mankind as a condiment and for the preservation of foods for ages.

United States Dispensatory (1): "This mineral production, so necessary to mankind, is universally distributed over the globe, and is the most abundant of the native soluble salts. Most animals have an instinctive relish for it, and from its frequent presence in the solids and fluids of the animal economy, it may be supposed to perform an important part in assimilation and nutrition."

Hutchinson (2): "Sodium is chiefly taken in the form of sodium chloride, or common salt. Of this most people consume about 20 grammes daily, which is probably at least ten times as much as is really necessary to meet the needs of the body. There are not wanting people who maintain that this excessive consumption of salt is not only needless but even harmful. This, however, appears to be an extreme view. It may be admitted, for the experience of those who refuse to add any salt to their food amply proves—that the amount of sodium chloride contained in a natural form in ordinary foods is quite sufficient for our needs; but there is no proof that an extra addition of salt in the form of a condiment is in any way injurious to health. On the other hand, it is equally far from being proved that such addition conduces in any way to the well-being of the body."

Harrington (3): "In the process of salting, the soluble organic constituents of meat and fish are removed in a large part, and the fibers become hardened. The nutritive value and digestibility, therefore, are diminished correspondingly. Brine salting of fish is one of the oldest processes of preservation known."

It is claimed by many physicians that sodium chloride is necessary in foods to maintain a normal state of health. It does not seem necessary however. I received a letter on June 25, 1916, from Dr. H. O. Beeson, San Bernardino, Cal., who says in part:

"I am still on the saltless diet, and after nearly nine years, I see no reason to relinquish it. My children are in good health, physically and mentally. My boy, just past 14, has been promoted to the third year in High School. I am past 62 and still write without a tremor. I work hard every day and sleep like a baby at night. I believe my good condition due to the saltless diet."

Dr. Victor C. Vaughan (4): "It seems that the greatest good is to be secured by restricting salt in the food of those patients who may be called prenephritics. We frequently meet with patients of this kind. They are men and women past the prime of life, who have been unduly energetic, often of good habits, with the exception of the tendency of overwork. The heart has been unduly taxed; they get out of breath easily; occasionally they grow dizzy. Blood pressure is high. There may be a trace of albumin in the urine or the most careful and frequent examination may fail to show this abnormality." He advises patients of this class to have their food prepared without the addition of salt.

1. They can educate themselves to eat unsalted food.

2. With unsalted food they drink less. Vesicular fulness can be induced by water as well as by beer.

3. The kidneys are relieved of excessive work in eliminating excess of both salt and water.

Dr. William Lesem (5): "At once the writer was impressed by the fact that patients who religiously abstain from the use of salt (in epilepsy) did immeasurably better than those who persisted in partaking of it; in all the cases the patients were instructed rigidly to abstain from the use of salt. Any decided amount of NaCl in the blood acts as an irritant to the cerebrum and increased the frequency and severity of the attacks."

Ceconi (6): Ceconi reviews the research of others on the elimination of chlorides, especially of salt, in its bearings on the origin of uremia. He then related personal experimental research which confirms the assumption that a tendency to impermeability on the part of the kidneys entails a retention of sodium chloride more than any of the other salts. This in turn upsets the osmotic balance in the circulation of various

kinds, which cooperate in producing the clinical picture of uremia poisoning.

Dr. Ackerly (7): "The alleged necessity of taking common salt was disproved by the fact that in ancient and modern times large bodies of men did not take it, and instanced the Numidians and Egyptian priests in ancient times, more recently the North American Indians before they acquired European habits, the inhabitants of North Russia and Siberia, the Bedouins of Arabia and others. Breast-fed infants obtained very little salt. The bulk of common salt ingested by adults was added by the cook in the preparation of food for the table. Nearly all the common salt passed away from the body by the kidneys. It was now admitted from the researches of Widall, Javal and others that when the kidneys were not healthy, there was frequently considerable retention of common salt. Taken in excess it will prove harmful, 1st, by throwing excessive work on the kidneys; 2nd, by increasing for many hours in the day the proportion of sodium salts in the fluids and tissues of the body; 3rd, by causing the retention of fluid in the body, and 4th, by causing certain forms of diarrhea, chronic bronchial and pharyngeal catarrh and chronic skin diseases, when the kidneys were not able to excrete the salt ingested."

In Prescott's History of Mexico is mentioned the case of the Tlascalans, a tribe of Aztecs, 500,000 strong, that was imprisoned for more than fifty years on a high plateau, surrounded by mountains by the allied tribes about them, during which period they did not taste salt.

"A Salt-Poor Diet as a Therapeutic Measure." Mendel (8) describes a few striking cases to show the remarkable benefits that may be derived from reducing the intake of salt in disturbances in the circulation.

"The Diet with Kidney Disease" (9): Salt is not the only factor in hydrops, but is such an important one that removal of this lime in the chain is one of the main points in treatment of nephritis with a tendency to dropsy.

Gasteira (10) discusses the causes, forms and consequences or renal congestion and emphasizes the necessity for measures to restore the balance in the cardiovascular system, with restriction to a milk diet, or better still, to a salt-free diet.

"Restriction of Intake of Salt in Treatment of Gastric Hypersecretion" (11): "The patient was a college professor, 60 years old, who was on the point of resigning his lectureship as he had become so debilitated from the loss of sleep from the almost incessant pains in his stomach. The only way in which they could be suppressed even transiently was with enormous doses of an alkali. Richartz put him on a diet rich in fat, rinsed out his stomach once or twice a day, and had him take a course of mineral waters, supplemented by electrotherapy. No benefit followed and after two weeks salt was dropped from his food, all beverages forbidden except water with brandy or tea. The stomach was rinsed out systematically about two and a half hours after the chief meal of the day. A little water was left in the stomach after the lavage. The patient always felt relieved and he was then given another meal like the one that had been pumped out. By this means the pain-free periods were much lengthened and by the third day of the salt-poor diet marked improvement became evident and rapidly progressed. He kept up the salt-poor diet for three months, with a weekly lavage of the stomach, and since then he has been entirely well, so that now after twenty-one months the cure may be considered complete. This treatment was equally successful in eight other cases. The patients feel the deprivation of salt less when they are allowed to use a little sodium bromid in its place at meals."

"Sodium in Origin of Gout" (12): "Suggest that abstention from sodium is an important therapeutic measure."

Tom A. Williams (13): "The chlorides of the average diet should be restricted. They are apparently harmful to those prone to epilepsy for altho the hopes aroused by the first recommendation of their deprivation have not been realized, yet many arrests of fits have occurred under a salt-free diet. When it is remembered that a chlorine balance is well maintained by a daily ration of one and a half grammes, that the amount in the usual diet is ten grammes, and that where renal inadequacy exists, edema quickly supervenes when the excretory capacity of the kidneys is exceeded, it should be evident that reduction of common salt is a rational procedure in a disease where cerebral edema has been found so fre-

quently as 22% of cases operated on. Some authorities attribute the comparative advantage of milk to its poverty in sodium chloride."

Dietetic & Hygienic Gazette (14): "We may take it as the best criterion of the amount used by the American people from which the American soldier is derived; 300 grains weighed out fills a tablespoon heaped up. That is what we use daily. This is the result of being guided by the taste alone, giving no consideration to the physiologic needs of the body or of the evil effects of the increased osmotic tension upon digestion and nutrition."

"All physiologists agree that 95% of the salt ingested is eliminated unchanged within twenty-four hours. Then, of the 300 grains eaten daily by the average American, 285 grains are cast out of the body as foreign material as rapidly as the emunctories can accomplish the work. And who is there to say that this can be carried on for years without harm?"

A. L. Benedict (15) has almost invariably found that on a diet as nearly salt-free as possible without special preparation of foods before they reach the cook, hyperchlorhydria lessens. It is not sufficient, however, merely to forbid the use of salt at the table, but it must not be used in the preparation of the patient's food, and salty meats, salt butter, etc., must be excluded. Hyperchlorhydria abated in this manner returns if an ordinary salt-rich diet is resumed.

Dr. Axel Emil Gibson (16) in an able essay in *Medical Brief* sets forth the behavior of sodium chloride in the human organism together with its uses and abuses. "The constant manufacture in the system of sodium chloride indicates its elemental necessity in the economy of body nutrition," says the writer. "In the course of our daily diet we introduce sodium into our system with every mouthful of spinach, beets, lettuce, strawberries, red meat, or any other sodium carrying substance, and subsequently start a chemical action between this element and the chloride contained in the gastric juice, followed by logical development in the system of sodium chloride—the salt of our dietary." It is pointed out that the excessive use of salt results in a crystallization, and this residue produces a hardening of the body tissues into the condition known as arterial cal-

cification—the stiffening of joints with the blockade of crystals in the kidneys, and other more or less grave and fatal disorders in the system. It would seem that the use of salt is largely an acquired taste.

"Salt & Cancer" (17): "That cancer is caused by an excessive eating of salt, and that its proper treatment is medication to expel the surplusage of salt from the bodily tissues, is the latest theory regarding this most dreadful of diseases. It is advanced by a New York physician, Dr. E. P. Robinson, a close student of the cancer problem."

C. H. Barlow (18):—An editorial on "Poisoning from Common Salt" (the *Journal A. M. A.*, Oct. 5, 1912, page 1297), speaks of the condition as a rare one. I wish to give my experience with several cases of fatal salt poisoning in China.

Thruout Chekian Province, and probably in other provinces of China, the drinking of saturated solution of salt is a common mode of committing suicide, and there is none more difficult to treat. In only one case did I succeed in securing recovery. Salt is taken for suicidal purposes sometimes in a common saturated solution made with water as the solvent, and sometimes in the brine from salted kraut.

I have data showing that chickens, pigs and rabbits are killed by partaking of comparatively a small quantity of salt.

The above excerpts show only a few of the cases where a salt-poor diet is recommended. It is demonstrated from the salt matter that I have been accumulating that a salt-free diet or a reduction of salt in the diet is beneficial in all cases of diseases that mankind is subject to.

It is evident from the above that the health of the nation would be improved if the consumption of salt were materially decreased.

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100 William St.

ANOTHER INTERESTING CASE OF LONGEVITY.

BY

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Apropos to Dr. I. L. Nasher's "Noted Case of Longevity" in the March number of *AMERICAN MEDICINE*, I am taking the liberty of sending you a brief history of the life of Harlena Dennett, born at Luray, Paget Co., Va., September 18, 1816. Her mother dying at the age of 32 left her in her tenth year the oldest of seven children. Her widowed grandmother came and kept house for them one year, and then they were bound out. She went to live with a family named Kauffman. Seven years later Kauffman emigrated to Champaign Co., Ohio, where he has resided ever since 1833. February, 1840, she was married to John Miley, by whom she had four chil-

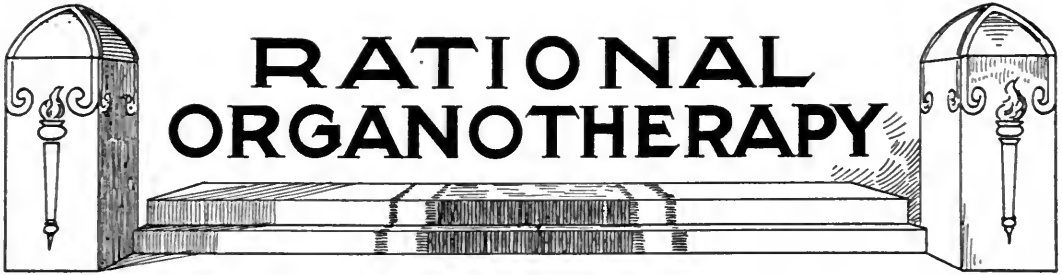
dren, all of whom are still living. The oldest is in his 80th year. The third, the writer, is in his 75th. Mr. Miley died in 1885, leaving her widowed on the home farm. The writer, then living in the West, made frequent visits to her. While on one of these visits to her she said, "After your father died I mourned a couple of years, then said to myself 'What is the use,' and went to work with the object of making money." Giving some of her history she said, "When I was about eighteen I was unable to do any kind of work for a year. My hands and face and feet swelled and I was unable to sweep. Once I went out about a quarter of a mile from the house and thought I would die before I could get back. Dr. Witt of Urbana treated me." Some years later in 1854 and 1855, she had another spell of the same character, I remember it well. Dr. Hamilton then treated her. He gave her a mixture of buchu and uva ursi leaves, juniper berries and nitrate of potass. She made a good recovery. In 1889 she had an attack of rheumatism which confined her to her bed for two months. She walked with a cane for some time afterward.

At the age of ninety-two, she with her maiden daughter moved to Millerstown, a small village, where she still lives. All of her life she has worked both in and out of the house. Her diet has consisted of fruits, vegetables, cereals and salt pork, such as farmers usually have. A farm hand once said to me "I never eat any place else where cooking is as good as your mother's. She cooks everything just right."

Her height is 5 feet, 2 inches, weight 105 pounds. When I was a little boy she used to complain of her feet being hot, and

would sleep with them uncovered in cold weather. At the age of ninety I have seen her sit with the door open and her bare feet outside. She never was in any rush at her work, but was persistent. While resting she always sat with closed eyes. Now has double cataract and can only tell day light from dark. Hearing good. Hands and feet are soft and plump and pink like those of a young person. Face almost devoid of wrinkles. Considerably stooped; but recently I have seen her while standing bend down to tie her shoes and raise up again without any kind of assistance. Washes dishes, puts them away, pares fruits and vegetables, and in the canning season does all the paring. Can recall the more important events all along her life. Remembers the death of her grandfather when in her sixth year and the breaking down of the bridge over the Hawksbill at Luray with a drove of hogs. Can relate to me all the happenings between my visits to her. Lately she sang a hymn to me that had been committed at the age of one hundred and two. It contained nearly four hundred words. Enjoys the company of friends and relatives. Is not childish nor garrulous in the least. Can transact her own business, sees the laughable side of anything amusing and laughs as heartily as do young people.

Changes in her physically from year to year are so slight that those who see her often cannot point them out. Four weeks ago she said to me "I don't know that I can say that I ever felt better." All the history of her father that we have is: That his father went to "the war in 1775," and that he was born either the first or second year of the war. He sustained a fractured femur in 1868 and died that year.



Thyroidal Constipation.—Strauss (*New York Med. Jour.*, Feb. 14, 1920) is of the opinion that the day has come when we must regard the individual and his physiology, whether it is normal or abnormal, as a unit. We must ask ourselves why does the intestinal tract of this individual refuse to do its share, but at the same time, recognizing clearly that a big constitutional reason underlies the local manifestation of inadequacy. Strauss says that the patient's bowels and his defecatory difficulties should be forgotten and analyze him from the endocrinologic viewpoint.

Clinical study shows that various qualitative and quantitative physical marks are characteristic of thyroid disbalance *per se*.

Thyroidal Indications. Mental Signs.—Sluggishness at times, alternating with sparkling wit. Irritability which grows worse at any slight opposition. Moodiness generally. Inability to concentrate, forgetful, easily tired, lack of confidence, heavy dulness in the morning, which wears off as the day progresses. Require much sleep.

Hair.—Usually coarse and dry. Tendency to come out. Likelihood of dandruff. Hair lacks brilliance and looks dusty.

Head.—Liability to generalize dull aching on slight effort. Headaches usually frontal or occipital.

Eyes.—Eyebrows tend to sparseness, especially the outer third. Scaliness of skin under eyebrow. Puffiness of upper eyelid, particularly outer half. Sparse eyelash growth. Orbit often seems sunken, enophthalmic. Dull expression generally to the eye. Iris pigment usually hazel or grey green. Rarely a clear color as brown or blue. Pupil tends to be narrow.

Nose.—Tendency to rhinitis. Crusts form frequently.

Ears.—Scales form easily along external auditory meatus.

Mouth.—Lips tend to dryness and cracking. Tongue thick and stubby. Teeth often leave their imprint along the margin.

Teeth.—Heavy, soft, easily becoming carious. Tend to yellowish stain. Liability to pyorrhea.

Tonsils.—Tonsillitis attacks are frequent. Tonsils are usually enlarged.

Respiratory System.—Frequently acquire cold and difficulty in recovery. Tendency to winter bronchitis which usually has associated a productive cough. Adenoid tissue overgrowth likely in children.

Cardiovascular System.—Cardiac rhythm steady and sluggish. Not affected easily by physical or emotional stress. Rate tends to be slow—around sixty. Systolic pressure unchanged, but pulse pressure usually less than normal. Extremities usually cold and may be damp. Poor capillary circulation as shown by slow refilling of skin capillaries after pressure. No stimulation reaction experienced after cold baths. Patient usually takes only warm or hot baths. Patient feels much better in warm weather. Winter often makes him feel utterly miserable. Vasomotor skin reaction and pilomotor skin reaction very sluggish. Both may be absent. Temperature usually subnormal.

Digestive.—Appetite usually not large, but at times it is extreme, but even at these times it is easily satisfied. Patient experiences times when he craves sweets. All food agrees with patient. Tendency to tasteless, gaseous eructations after meals, and meteorism and offensive flatus. Tendency to thickening of rectal veins with bleeding. Tendency to gain weight rapidly. Desire to sleep after meals.

Urinary.—Tendency to polyuria. At times slight traces of albumin and sugar appear. Indican frequently excessive. Nocturnal enuresis often present.

Skin.—Dry. Thick. Tends to scale easily and often shows psoriatic and eczematous patches. Tendency to small warty growths. Perspires with difficulty. Yellowish earthy color. Fingers and toes often seem cyanosed. Fragility of nails, which show ridges and thickening.

Skeleton.—Relaxation of ligamentous structures. Cracking noises on motion of small joints.

Having determined that the patient can be included in this symptom group, the doctor will soon be able to tell whether the patient presents enough of the above physical signs to warrant this diagnosis; and the problem then to be met is that of therapy.

The writer begins with doses of one-tenth grain of thyroid extract given on an empty stomach, either in the morning on awakening or on retiring at night. This dose is given once a day for a week and the result noted. If the small dose has no effect, it should be increased in quantity, but administration once a day as before is all that is necessary. From one-tenth grain go to one-half, then to one grain and so on. As soon as the intestinal action is normal, stop the thyroid extract.

Pre-Operative Treatment of Hyperthyroidism.—In dealing with this subject Haines (*Ohio State Med. Jour.*, Jan., 1920) points out that the large amount of clinical material presented to the Draft Board gave ample opportunity for observation and led one of a speculative turn of mind to again review the literature on causative factors in the production of this phenomenon.

The removal of focal infections, tonsils, teeth, sinus, gall-bladder, appendix and tubes has been provocative of much good in allaying the physical storm preparatory to direct attack upon the thyroid. X-ray treatment, direct exposure to the sun's rays and other forms of local treatment with the possible injection of boiling water into the substance of the gland, have at the hands of the author produced but slight and transitory improvement in the general manifestations and have served to render removal of the thyroid difficult in consequence of the periadenitis induced by these local irritants and the resultant dense adhesions between gland and capsule.

Removal of the superior and middle sympathetic ganglia located in the carotid sheath, has been practically discarded as an operative procedure, and still this operation at one time had a number of adherents. Ligation of two or more of the arteries supplying the thyroid is very constantly followed by immediate, marked abatement of symptoms, and a small percentage of permanent cures. Marked improvement in force and endurance of the heart muscle follows relief of the acidosis all too frequently to be placed in the realm of coincidence. General tonics and heart tonics, preparations of digitalis or, in any case of failing compensation, strophanthus and chloral or bromide to promote quiet, induce rest and sleep are of signal value in the pre-operative management of the patient. The patient should receive a nutritious diet and a round dose of castor oil daily. Morphine for its well-known physiologic influence in checking secretions should be reserved as a last resort. Round doses of tr. belladonna, 4 c. c. to 6 c. c. given three times daily for a week, will cut down the excessive bronchial secretions with which these patients annoy the anesthesiologist at the time of operation.

Internal Secretions and Vitamines.—Progress is being made in the study of the manner in which the body is developed, which means that knowledge of the endocrine glands and internal secretions is advancing; so says a writer in the *Medical Record*, May 1, 1920. Up to the present time their functions in the adult have been chiefly considered, the defective, perverted or excessive action of the thyroid gland, the defective action of the adrenalin glands, disease of the pituitary gland, and a long list of disorders owing to the disturbance of the due coordination of these glands. Important and instructive as these studies are, they sink into relative insignificance when compared to discoveries relating to the functions of the ductless glands in development. For example, it has long been a matter of common knowledge that cretinism, distinguished by dwarfish idiocy, is the result of thyroid failure in childhood, and other discoveries in the same direction are in the making. The endocrine glands

and the proper coordination of these glands, frequently termed the "endocrine balance," are essential to the development, seeing that they are generally conceded to be the directors. Minute specks of glandular tissue must be carefully studied from this aspect. It is not enough to observe closely those glands which have no ducts and apparently do not secrete or rather secrete only internally.

The better known glands, with ducts and secretions, may also produce internal secretions. Of great importance from the age of puberty onwards are the internal secretion of both sexes of the glands of reproduction. These are essentially internal secretions, but they influence development to such an extent that the boy cannot become a man nor the girl a woman without their pervasive and dominating influence. Every one of these internal secretions is a marvel of chemical complexity, and there is no need for wonder that the "endocrine balance" is disturbed so frequently.

These discoveries appear so wonderful that the question may be asked whether we are ever likely to have any means of control over biochemical reactions of such intricacy. Recent discoveries regarding vitamins or accessory food factors are commencing to point out the way. Researches with regard to beriberi and rickets have shown us that two of the vitamine groups are necessary for development. Is there then any relation between these and internal secretions? Dr. Gowland Hopkins has suggested that we may not only have to deal with two distinct and independent factors of growth, internal or endogenous, and external or dietetic respectively, but that rather the action of the external or dietetic factors, the vitamins, is to stimulate or activate the internal or endogenous ones. Briefly, according to this theory, the vitamins act by stimulating the endocrine glands and regulating the endocrine balance.

All this offers a fruitful and splendid field for research, and it may be said is quite in line with the trend of medicine of today—preventive. Because if we can find how to influence the development of the young we shall be able to prevent the occurrence of many diseases.

In the future it is probable—nay, it appears almost certain—that physiology and pathology must be taught on a different ba-

sis. In the future the study of development and the prevention of the factors which turn it into a wrong direction or arrest it may be considered fundamental in the teaching of physiology and pathology.

The Moral Influence of the Endocrine Glands.

The recent advance in the knowledge of that wonderful organic symposium, comprised in our endocrine glands, raises the lurking suspicion, states a writer in *The Medical Press and Circular* (Apr. 14, 1920), whether the complete harmony in their function is not directly concerned with the determination of our moral nature. If we bear in mind the intimate correlation which exists between the various glands in question, and how necessary the harmony in their action is to our bodily well being, the inference is reasonable that a defaulting gland may cause us to become bad-tempered, captious, cynical, morose and prone to despise the amenities of life, essential to the coordinate communion with our fellow creatures. From this reasoning many instances suggest themselves in fulfillment of its application. The toxemia associated with a faulty thyroid becomes the source of much irritability of temper. Patients, the victims of hypothyroidism invariably complain of an irritability which they cannot restrain. There is the hypersexuality of some men, oftentimes also beyond control, possibly due to the predominating influence of the endocrine secretion of the testis. The excitability which distinguishes some persons is closely related to hyperthyroidism in its various grades, and failure in the function of the hypophysis probably determines the nervous temperament of many people, inclusive of those who display hysterical symptoms. We can suppose a man or a woman whose endocrine glands were harmoniously discharging their functions as nature designed them to do, being an angelic creature, in mind, character and morals. And so it comes to this: if our ends are shaped by heredity, our endocrinology must be the most determining factor in our lives. In the process of years, as our knowledge advances, we may be able, by laboratory tests, to differentiate the secretion attributable to the various glands, and thus arrive at an approximate

value of their standard function. What an alluring picture of therapeutic advancement such a vista provides! At present organotherapy is essentially empirical. Whenever a gland preparation is used, the indication for its use is mostly a matter of speculation; the dosage is a matter of guessing. What we chiefly want to know is when a gland begins to fail in its functions, before that failure is manifested by symptoms; much misery in life would be saved were we in possession of that knowledge, and possibly much crime.

Organotherapy in Eczema.—There are undoubtedly patients in whom the predisposition to eczema can in a greater or less degree be controlled by organotherapy, writes Eisenstaedt in the *Journal of the American Medical Association* (Mar. 6, 1920). He has repeatedly seen patients materially aided by small doses of thyroid substance, and several neurotic and underdeveloped young women, he was sure, were markedly benefited by the use of corpus luteum extract. However, the physiology and therapeutic uses of the ductless gland substances are in general so poorly understood that it is impossible to give clear-cut indications for their use, and the suggestion is offered merely as one that they may sometimes be helpful in the management of eczema.



Roentgen-ray Indications for Tooth Extraction.—Writing in the *Journal of Dental Research*, Sept., 1919, Darling states that the professional roentgenologist will give an impartial and disinterested diagnosis and recommendation with reference to the tooth as shown by the X-ray. While many theories of treatment are advanced and courageously and stoutly demonstrated, no one method of root-canal treatment has been established or even locally accepted. Surgically there is but one solution: radical removal of the disease. The medical or

dental roentgenologist deals with a fairly exact method of diagnosis; and he is concerned in arriving at the facts and giving the proper aid and information.

The roentgenogram when interpreted by the trained medical or dental roentgenologist, is one of the most dependable means of diagnosis of conditions that may indicate tooth extraction.

Tooth extraction should be more generally prescribed. At present no other method for the cure of dental abscesses can be guaranteed to remove the focus of infection that leads, or may lead, to systemic diseases.

The trained medical or dental roentgenologist, and not the dentist, should be the best and final interpreter of the roentgen plate in the diagnosis of tooth conditions, since the roentgenologist can have (a) neither pride of reputation in the previous dental work, (b) nor any financial interest in the future dental work, and (c) his training has been taken for the purpose of interpretation and valuation of X-ray evidence.

The commercial X-ray laboratory offers unprofessional and unreliable work and service and, therefore, should be discouraged.

The dentist should not attempt to do X-ray work himself, since the practice of dentistry itself is so comprehensive that it requires the whole time and energy of the dentist, allowing little or no opportunity for expert study of the technic and interpretation of roentgenology that pertain to his diagnostic survey work.

The X-Ray as an Agent for Sterilizing the Male.—The great advantage of X-ray therapy is due to the fact that the rays, while destroying the spermatogenetic function, have no injurious effects upon the interstitial cells which furnish the internal secretion.—*Urologic and Cutaneous Review*.

Action of Electrical Currents on Ductless Glands and Other Tissues.—DeKraft (*Med. Rec.*, Jan. 24, 1920) is of the opinion that too little attention has been paid to the possibility of stimulating the action of the

glands of internal secretion by means of electrical currents. High frequency currents, applied in a general way, promote nutrition of the body as a whole. They check toxins; they aid in inducing chemical changes in the tissues, as is evidenced by the very great increase in solid constituents of the urine, by the increase in the excretion of CO_2 , and by the increased activity of the sweat glands. The hair loses its brittleness and dryness, becoming soft and oily, regaining its natural luster; the skin loses its dryness and tendency to desquamate; the nutrition of the nails is improved, as shown by their rapid growth, greater firmness and improvement in color.

By the local application of diathermy it is found that the circulation of arterial blood can be influenced in any glandular organ, thus increasing its activity and promoting its functional action. No organ is so deeply seated that it cannot be reached by the vivifying warmth of high frequency currents. This introduction of warmth into the tissues or organs produces a vitalizing effect; the activity and metabolism of the cell are increased, and its resistance to pathologic processes is raised.

The peculiarly harmful effects of intestinal poisons on blood cells and the pancreas, naturally act detrimentally on other endocrine structures, such as the thyroid, thymus, hypophysis, testes, ovaries, etc.

When treating cases of glycosuria with diathermic currents, it must be borne in mind that hyperthyroidism may inhibit the action of the pancreas.

to the unhealthy tendencies of our modern civilization and that we are simply reaping the harvest that has been sown during the past half century?

In Newark evicted tenants, with no place to go, are being housed in a tent city, constructed along military lines, in one of the city's playgrounds. In Greenwich Village folks are building summer shacks on the roofs of their apartments because they are unable to afford summer homes. In Cordova, Spain, the wealthy classes are abandoning hats and wearing sandals to beat the high cost of headgear and shoes, in the South the overall hysteria has been followed by the more practical "old clothes idea." People are beginning to take thought unto the selection of their food so as to keep the food bills within range of possibility. Countless evidences of changes in our custom of living are forced upon us by the impossible cost of continuing in the old habits.

All of these changes are away from complexity of living toward simplicity. The health sanity involved in them is enforced, however; it is not a matter of deliberate choice. To what extent it is to be further enforced is a question which admits of considerable speculation. Very possibly an economic reconstruction will come about and bring relief before any great or radical change in our habits of living is accomplished. On the other hand, political bungling may be continued to such an extent that a vicious food crisis may come down upon us and sweep all our luxurious ideas into the discard. Whatever comes, the lesson of these times is a salutary one and one which should be widely heeded.

There is a group of ready-tongued scoffers who think that the medical profession would suffer if more people were to acquire sanity on the subject of health and follow the ordinary principles of hygiene. It is probably true that with the public committed to common sense methods of living physicians would have less to do in the actual treatment of disease, but this would scarcely worry the medical profession. Every physician tries to teach health sanity every time he is called to a case. He knows that greater intelligence on health matters is as much to his benefit as it is to the benefit of the public, and he fully realizes how much more the scientific medical treat-



By-ways and High-ways

"It's an Ill Wind."—The rising cost of the necessities of life is the all-absorbing topic of the day. From time to time the upward climb is temporarily halted, as the result of a temporary shifting of supplies or some other cause which operates only for a brief period—and then the rise continues. How many of us have a true appreciation of the situation? How many of us realize that it is due to a large extent

ment of disease is hampered than aided by the ignorance of the public.

It will be a genuine blessing if sanitation, dieting and simplified methods of living can be made the subject of closer study by the public, beginning with an adequate presentation of the fundamental principles in the public schools. If housing difficulties should force an exodus from congested cities it would mean a vast increase in the kitchen garden activities and a long step in the return to natural outdoor methods of living. Social sanity would go hand in hand with physical sanity if the population could be spread more evenly over the face of this fair country and each individual could divide his time between activities of the soil and those of the factory, office or counting house. Advance thinkers along social lines have long contemplated such a utopia. It has long seemed a fruitless dream, impossible of realization. Certainly it would seem fruitless even now to hope that human beings would ever achieve more rational methods of eating and living of their own volition. At last, however, there is the possibility that mankind may be forced to adopt food and living conditions which they have lacked the wisdom of doing deliberately. The ultimate gain in health and true happiness will probably make men wonder a few years hence how they could have been blind so long to the benefits of the simple life.

Telephone and Temper.—The telephone service is improving in most large cities, according to recent reports. At times it has been so bad in New York City as to constitute a menace to public health as Dr. Copeland, the Health Commissioner, has pointed out. Certainly it is true that when a physician or an ambulance is needed in a hurry, there is possibility of serious harm resulting if a telephone delay prevents the prompt fulfilment of the need.

However real this menace is, a more important result of the bad service has undoubtedly been the effect on the public temper. There is some dispute as to the actual character of this. Some declare that the delays have definitely injured the nervous systems of certain irascible persons forced to do considerable telephoning. Others find the delays have been really salutary since

they have forced short-tempered persons to the much needed exercise of self-control. It is even set forth that the service improvement has not actually occurred, but that the public temper has adjusted itself to the difficulties, has acquired greater patience, with the result that telephoning seems easier, even tho it may not be. Some one has said that "human beings can get used to anything—except hanging."

Modern "Bleeders."—In the days when the physician was in the habit of bleeding the patient on any and all occasions the results were frequently far from being as disastrous as we might expect today, when viewed in the light of modern knowledge. Perhaps patients in those days led a simpler life and possessed a greater reserve store of strength.

In this connection it is interesting to note a new phase of the old "bleeding" practice. A student at Johns Hopkins University, by selling his blood for transfusion at the rate of from \$50.00 to \$100.00 for 500 cubic centimeters, has earned \$600.00 during the year. He is apparently in perfectly good health and has never missed a day from class. It is reported that the authorities condemn the idea of students capitalizing this act of humanity, yet they acknowledge that it has proved to be the best way to get the right kind of blood for sufferers. Thus is afforded one more way for meeting the expenses of a college education.

As showing the "swing of the pendulum" in medical ideas, it is also interesting to consider the extent to which the reverse of the old-time bleeding practice has grown. Whereas the physician of fifty years ago swore by the liberal withdrawal of blood, a good many today are just as sanguine of the benefits to be obtained by adding a liberal portion of blood. The one great outstanding feature is the way the human organism is able to adjust itself to conditions, even when the most surprising liberties are taken with it.

More Cheese for Americans.—Why is it Americans eat so much less cheese than Englishmen? Is it due to the fact that

fondness for cheese is an acquired taste?

"England eats thirteen pounds of cheese per person per year, the United States three pounds." This remarkable difference was set forth in statistics at the Milk Show recently held in New York.

The great value of cheese for healthy workers who lead an active physical life cannot be overemphasized. As Professor Bailey says in his splendid chapter in *Dietotherapy* (D. Appleton & Co., New York): "Cheese is a most valuable storage food, rich in flesh-forming and energy-producing material. In fact, it is so rich in nitrogen and fat that a meal of bread and cheese supplies the needs of the system as well as an elaborate meal from soup to nuts."

In this day of high prices for meat, our American people would do well to use more cheese, which contains more than twice as much nourishment weight for weight.

Capital Punishment.—The failure of the bill in the New York Legislature abolishing the death penalty is a matter on which the public should congratulate itself. Some day we may develop to the point where this deterrent is unnecessary, but that day is not yet. The life sentence has comparatively little force in the mind of a vicious person. There is every hope that it will be commuted. The general practice gives ample foundation for such hope.

The death penalty is needed for the hold-up man and the burglar with the light trigger finger, whose numbers seem to be dangerously on the increase. But even more is the death penalty needed for the cold-blooded perpetrator of the premeditated crime, the murderer of sound mind. The mentally irresponsible slayer is well protected by the law; there is every presumption in his favor to save him from the chair. The murderer is the supremely unsocial anachronism in modern civilization. He must be made to see that he forfeits his entire human rights when he thinks to cut short the life of another person, no matter how serious the wrong that person may have done him. To his mind the death penalty appears as a sharp thought fraught with the full force of finality. Especially the electric chair with its instantaneous per-

formance is easy to visualize and horrible to contemplate. Life is sweet to the wickedest. Life anywhere is endurable and released prisoners have been known to return to the friendly confines of the prison walls. The prison threat has in it none of the physical imminence of the death threat. Its punishment is largely mental so that only a well-developed mentality can sufficiently fear and respect its anguish.

No great mentality, on the other hand, is needed to visualize the anguish of death.

The need of the death penalty can be well proven on humane grounds. The attitude of the modern prison officials toward their charges was well set forth in the recent annual meeting of the National Committee on Prisons and Prison Labor. Each year brings to light new experiments in the honor system, new attempts to cure the criminal mind by sympathetic treatment of his case as pathologic rather than ethical. Such a humane viewpoint cannot be maintained if capital criminals are to be allowed for an instant to think that they will share it. The sharper the distinction between the two sorts of criminals the greater will be the opportunity for curative work among those guilty of the lesser crimes. There is no sharper distinction than the one made by the electric chair.

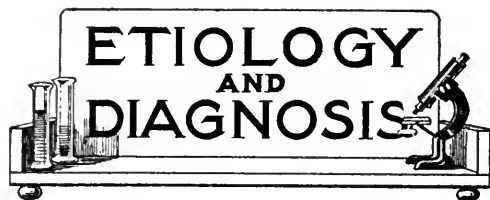
That society is getting away from the vindictive attitude toward criminals, is clearly apparent. Punishment finds its sanction only as a deterrent.

The enlightened attitude is reflected in the words of Edward C. R. Bagley, deputy commissioner of correction of Massachusetts, speaking on the honor system at the meeting of the national committee referred to above. "There are neither guns, dogs, clubs nor handcuffs in our honor camps," he said. "There is no half-way proposition about this if you want men to live normal lives when they get out of prison. And it means further that a man must be sent out morally, mentally and physically fit if we are to do our jobs. Give men a chance and they will prove their worth. Out of the 318 men at our prison camp but seven have gotten into any kind of trouble."

Sheriff Tracy of Vermont told of having lost but one man out of 500 during a period of six years' trial of the honor system. Hastings Hart of the Russell Sage Foundation described the Farm Colony in Florida,

outside of Jackson, where there are 500 prisoners working on a 20,000 acre farm under convict foremen who have no badge of authority except their own personal abilities as leaders of men. But eight paid officials of the state are stationed at the farm, such as chaplain, doctor, superintendent and assistants. In eight months they have lost but two men and the morale is extraordinary.

Similar practices thruout the country were cited by many speakers. Prison reform is happily progressing. It is only the soft and sentimental-minded person who confuses the capital punishment question with prison reform. It is almost invariably a confusion born of loose thinking and lack of real information.



Early Diagnosis of Scarlet Fever.—Zuelzer (*Berliner Klinische Wochenschrift*, Dec. 1, 1919) endeavors to show that scarlet fever is recognizable in the incubation stage several days before the onset of the fever. He ventures in explanation of the maximal enlargement of spleen and liver at the onset of the fever in scarlatina, typhus and malaria the hypothesis that the causative agent attacks these organs first. He has found quinin treatment of scarlet fever efficacious in the early stages, and has effected cures by its use. As it is doubtless true that the disease is spread during the incubation stage, this constitutes an added reason for its early recognition. As a prophylactic measure he recommends that in every case of infectious sore throat large doses of quinin should be prescribed. If scarlet fever is not present, no harm is done; in fact, Fraenkel recommends quinin as the most rational treatment for angina. In Prussia the case mortality from scarlet fever before the war was 10 per cent. He states that percussion of the liver is facilitated by a deep inhalation, distending the abdomen.

The Diagnosis of Disease of the Pancreas.—Sir Archibald Garrod (*The Lancet*, Apr. 3, 1920), in this year's Schorstein Lecture, delivered at the London Hospital Medical College on February 20, placed the diagnostic indications of disease of the pancreas in three main groups. In the first are the clinical signs and symptoms, such as tumor, pain, tenderness, vomiting, cyanosis, and the like, and the signs of pres-

sure upon neighboring structures. Secondly, one may detect signs of failure of external secretion, defective digestion of proteins, fats and carbohydrates. Thirdly, indications of failure of internal secretion, of which glycosuria is at the same time the most important and the best known. Lastly, there are certain syndromes which clinical and pathologic experience has taught one to associate with lesions of the pancreas. Thus the diagnosis of carcinoma of the head of the gland is often correctly made upon purely clinical evidence, and in cases of bronzed diabetes, with the enlarged cirrhotic liver and peculiar pigmentation of the skin, the pancreas is always implicated. Many ingenious tests of pancreatic efficiency have been devised and each test has its adherents and each its critics who question its utility. From a consideration of these it is evident that practically every sign, symptom or test may fail at times and that in each individual case one needs to balance the quantity and quality of the evidence for and against a lesion of the pancreas.

Etiology of Influenza.—A preliminary report of the experimental work done by Gibson, Bowman and Connor with a filterable organism is given in the March 22 issue of the *British Medical Journal*. They succeeded in growing a minute microorganism of a coccoid shape by Noguchi's cultural methods from: (a) the kidney of infected animals; (b) the filtrates of lung tissue, and (c) the filtered sputum from cases of influenza. The cultures have been carried to the third generation by direct culture. The cultures when inoculated into animals produced typical "experimental influenzal" lesions and cultures were recovered again from the animals so inoculated. The pathologic lesions in what may be called experimental influenza in animals closely resembled those seen in the lungs of men. Some evidence was obtained in favor of the view that the passage of the virus from one animal to another may raise its virulence. Inoculation of the filtered and unfiltered sputum taken from cases of influenza, especially at an early stage of the disease, has been found to produce lesions in the lungs in a high proportion of inoculated animals.

Cardiac Problems.—Jones (*Medical Insurance and Health Conservation*, Mar., 1920) is of the opinion that nothing has done more to elucidate cardiac problems than the late war. Among the many things learned in this enormous, unusual and nation-wide heart clinic, a few will stand out prominently and should have an abiding influence upon the work and judgment of clinicians for years to come.

It was well known before, but has been emphasized by the selective service experience, that a heart with a murmur may be a good heart and be capable of bearing heavy work and strain. A few conditions are essential, however, *first*, that the endocarditis which

caused the murmur shall have ceased all activity and progress; *second*, that the myocardium shall be unimpaired and capable of completely compensating for the lesion under all conditions; *third*, that the heart be not subject to the effects of focal infection, hyperthyroidism, syphilis or nephritis, and *fourth*, the heart shall be of normal size. The nature of the murmur is also vastly important. If it results from mitral stenosis or aortic insufficiency, the heart will, in all probability, break down under strain. Under considerations considered above, if the murmur is a faint apical systolic, or is heard in systole in or near the pulmonic area, or is cardiorespiratory in type, intensive nervous and physical activity may be efficiently borne.

Another phase of cardiac pathology which has been more prominently brought forward is that related to atypical hyperthyroidism. The tachycardias encountered in the selective service work suggested hyperthyroidism in many cases. It has been found that the thyroid heart will not endure strain under mental, nervous and physical hardships.

Another type of circulatory disorder is found in the young man or woman, usually of slender build, long chest, long, sharp costal angle, thin abdomen lacking in tone with gastroenteroptosis; the hands and feet are cold, clammy and cyanotic, with poor capillary circulation. The heart is irritable and frequent, the arteries feel tense, yet the blood pressure is often low. There is sometimes cardiopoptosis, hepatopoptosis and nephropoptosis; indeed, the Stiller habitus is decided. The heart pounds and races upon moderate exertion or excitement. The condition typified by these cases has been termed neurocirculatory asthenia or effort syndrome (Thomas Lewis) and it was found in the military training camps that, with some exceptions, they were poor subjects for active first line service.

In the treatment of neurocirculatory asthenia, two things should be done. The first is to modify or abolish, if possible, focal infections such as may reside in diseased tonsils, and the second is to obviate as far as possible the effects of gastrointestinal stasis, which is thought by the author to be an important factor in some of these cases.

That much good may be done thru scientific, controlled, personally observed exercise training, even in the presence of serious cardiac disease in the young has been amply illustrated by such work as Barringer has conducted and shown.

Etiology of Appendicitis.—Riff (*La Presse Médicale*, Sept. 18, 1919) discriminates between the incidental involvement of the appendix in some general malady and the idiopathic and essential form which, however much it varies in expression, has a common pathogeny. He upholds the views enunciated long ago by Letulle and later corroborated and developed by Aschoff. These comprise the essentially cavitary origin, the autochthonous beginning—disposing of the doctrine of propagation from the cecum, and the origin in a minute cavitary

abrasion of the mucosa. Given one or more slight defects in the cavitary epithelium, infection by pyogenic cocci is readily accomplished. Appendicitis never begins as catarrh of the organ as a whole. Simple as is this doctrine it is weak in one respect, for it is difficult to ascertain or imagine how the primitive abrasion arises unless from the activities of intestinal parasites and foreign bodies. Are the pyogenic cocci themselves able to cause these abrasions? This possibility would involve predisposing causes such as stasis in the organ. Aschoff accepts this view in his dictum "no stasis, no appendicitis." Stasis excites to virulence the microorganisms in the canal. Appendicitis as a result of serial crises is readily intelligible, for one attack by facilitating stasis and causing a deposit of mineral matter must pave the way for others. The sensible parasites, such as tenia, ascaris and oxyuris, can readily supply the initial lesion. From this point on Riff takes up all the arguments in favor of the verminous theory and by reason of the great frequency of the oxyuris he makes it responsible for much of the disease as encountered today. Letulle and Aschoff were unable to find the oxyuris often, but this was not because of its absence. Systemic search will discover its presence. The author has worked in this direction for a number of years and has examined 152 appendixes subjected to every variety of inflammation and from patients of every age. Only 13 per cent. were quite without evidences of parasitism in the appendix, such as ova. Oxyuris, trichocephalus, and lumbricoids were all represented. The war interrupted his work, but since returning to the latter he has examined sixty-three more appendixes and has found the oxyuris so omnipresent that he holds it responsible for most cases of appendicitis. He has evolved a complete "oxyuris theory" which explains the incidence of the disease in a very natural manner.

The Schick Test and Protection Against Diphtheria.

—Last spring, thru the cooperation of Dr. William H. Park, Director of the Bureau of Laboratories, of the Department of Health, and his co-workers, the Department of Education (*School Health News*, Feb., 1920) extended to a selected group of children with their parents' consent, an opportunity to determine whether or not they were susceptible to diphtheria. Each District Superintendent was asked to select two schools in his district, and about forty schools responded to the invitation to have the children tested. It was originally proposed to perform these tests on the incoming and 1A children, but practically all of the schools desired to have the tests extended to children of the upper grades. This request was met with in many of the schools, and over 5,000 children were subjected to what is known as the Schick test.

The test consists in introducing into the skin a drop of diphtheria toxin, so diluted that the reaction, if any, is only local. If the individual tested shows, after 24 hours, a small

reddened area at the site of the injection, it indicates that individual has not a sufficient number of protective or immune bodies in his system to protect against diphtheria infection. This is known as a positive reaction. If, on the other hand, there is no reddened area at the site of the injection, after 24 hours, it indicates that the individual has enough protective or immune bodies to protect against diphtheria. This failure to produce a reddened area is known as a negative reaction. If the individual has such a negative reaction, nothing need be done to protect him further, whereas, if the reaction is a positive one, the individual should receive three injections, at weekly intervals, of a substance known as toxinantitoxin. It is the belief of the best authorities that these injections will protect an individual against diphtheria for life.

Diphtheria is a preventable disease. Those who are susceptible, as shown by the Schick test, can be immunized with safety for life. Infants in many of our maternity, infant and foundling hospitals, are now receiving injections of toxinantitoxin to prevent diphtheria. The universal use of diphtheria toxinantitoxin is destined to make diphtheria a rare disease. In time to come it may be as rare as smallpox. The Schick test and the subsequent injections against diphtheria should not be limited in application to children. Everybody, young and old, should receive the benefit of the Schick test and the subsequent protection against diphtheria, if it is shown that one is susceptible. The importance of the Schick test, as it concerns the adult, particularly teachers and others who come into personal contact with large numbers of children, in whom diphtheria is most prevalent, is emphasized in the following story:

A physician was spending his vacation with his wife and family in a section of the country far distant from a medical center. His wife took ill one day, and a physical examination revealed the presence of a very badly inflamed and congested throat. The tonsils were red and swollen, and were covered with an exudate. It was a question whether the patient had a case of tonsillitis or diphtheria. Very often it is impossible to tell one from the other. A culture of the throat would clear up the diagnosis. The doctor and his patient were distantly removed from a Board of Health, or any laboratory; in fact there was no place near where a culture could be examined, or antitoxin could be obtained. Ordinarily, the patient should have received a dose of antitoxin, but the thing that gave relief to both the doctor and his patient was the rather positive knowledge that the case could not be diphtheria. How did they know? Two months previously he had performed a Schick test on the patient, and obtained a negative reaction. In other words, the patient had natural immunity against diphtheria and, therefore, was not susceptible to a diphtheria infection. On the other hand, if the doctor had not had this information, he and his patient would have been in a sorrowful state of mind, and the chances are

that the patient would have been removed to one of the neighboring city hospitals.

The Board of Education, in cooperation with the Department of Health, will again conduct the Schick tests on as many children as parents consent to have tested. Teachers, too, should avail themselves of this opportunity. Principals will be informed when these tests will be made.

The Etiology of Common Warts.—Wile and Kingery, of Ann Arbor, undertook during the past year an experimental study in the attempt to produce localized hyperkeratoses by the injection of a filtrate of wart material, starting with the conviction that warts were caused by filterable virus. Bowen (*Boston Med. and Surg. Jour.*, Dec. 25, 1919) in discussing this investigation states that theories as to the causation of warts have been: that they were due to an infecting organism, to trauma, or to a foreign body. Many clinical features favor each of these suppositions. The fact that they do often occur at points of trauma, especially on the hands and feet, points to a traumatic etiology. In favor of a foreign body are the numerous examples of localized hyperkeratosis following accidental lesions from bits of glass and steel, thorns, etc. With regard to the activity of an infectious agent, the appearance of satellites following large warts, the appearance of warts on contiguous and opposing surfaces, and the occurrence of small groups of individual warts, lend weight to this hypothesis. Numerous instances have occurred of the appearance of warts about or under the nails, after scratching or removing lesions of the same nature in other situations. Experiments by Jadassohn in 1894, in which he implanted small bits of wart tissue under the epidermis, gave positive results in 31 out of 74 inoculations. The period of incubation varied from seven weeks to three months, and all the lesions disappeared spontaneously. The writers' experiments were characterized by the intracutaneous injection of the filtrated virus of common warts into the skin of their own hands and those of their assistants. Wile and Kingery's conclusions are: (1) The sterile filtrate of wart material injected intracutaneously is capable of producing localized hyperkeratoses which are clinically and pathologically identical with verruca vulgaris. (2) The initial experimental lesion starts as a flat wart which in no way differs from that seen in verruca plana. (3) Interpapillary hypertrophy, inflammation, and marked hyperkeratosis, they believe, occur as secondary traumatic manifestations and they agree with Unna that the initial change consists of an acanthosis and flattening of the papillae. (4) Without denying that it is still possible that localized hyperkeratosis resembling verrucæ may be due to traumas or foreign bodies, it is definitely demonstrated that such changes can be caused by a filterable virus. It is not unlikely that when trauma and foreign bodies apparently are present as inciting factors, they may merely represent the point of entrance of an infectious agent such as has been determined in these experiments.

Buccal Contamination.—With the relaxation of the control over the uses to which rubber may be put we notice the reappearance in the London streets, says a writer in *The London Lancet* (Dec. 27, 1919), of the toy balloons and squeaking models of grotesques which have so great a fascination for the juvenile mind. And with these there reappears a danger which may as well be guarded against even if it has not, as yet, taken its toll of the unwary. It is customary for the vendor of the wares to which we have just alluded to demonstrate their attractiveness by inflating them with his breath, so that the customer may himself learn how to restore the collapsing sphere to its pristine plumpness, or how to produce that eerie long-drawn wail which seems to tickle the ears of youth so pleasantly. Without casting aspersions on the moral character of street hawkers we may suppose that among them, as among the population generally, syphilis is not unknown. To transfer a wooden mouthpiece from the lips of a person of doubtful antecedents to those of his own children is the kind of thing the average man would admit the undesirability of, if he stopped to think about the matter at all. Perhaps now that the subject has been brought to his notice he will ponder over the possibilities of contamination. As regards another source of danger of allied origin he may not be able to protect himself and his family so easily, tho fortunately this danger is more remote. Much of our food is stored in tins, and in provision shops there may be exhibited for sale in small quantities many preparations which have been kept in this way. The practice of facilitating the discharge of a tin's contents by making a hole in the bottom and blowing thru it, which we recently came across, may be sufficiently general to make a warning advisable on grounds both of sentiment and health.



Autogenous Vaccines in Treatment of Chronic Nasal Catarrh.—The cases on which L. Mackey's (*British Medical Journal*, Aug. 9, 1919) paper is based concerned patients suffering from (1) recurrent acute nasal catarrh, (2) chronic nasal catarrh or (3) chronic post-nasal catarrh. Mackey always uses an autogenous vaccine. The vaccines were made from the germ or germs which he believed to be responsible, and always from the primary cultures when these were pure. Mixed vaccines were made when two or more germs grew profusely on the plates, or when, as sometimes happened, a different infection was found in

the two nasal passages. The vaccine most frequently used was pneumococcus, either pure or combined with some other germ, and the next on the list was Pfeiffer's influenza bacillus; then *M. catarrhalis*, *Staphylococcus aureus*, *Streptococcus mucosus*, *B. mucosus-capsulatus* (Friedländer's), and, last of all, *B. Sceptus* and *B. coryzae-segmentosus*. The vaccines were made in such strengths that 20 minims represented the maximum dose. Mackey began with 4 or 5 minims and gradually increased the dose, giving twelve doses at intervals of a week. The maximum dose of pneumococcus and streptococcus used was always 150 millions for an adult and for the other germs 300 or 400 millions. In one-half the cases the catarrh was cured and the nasal passages were normally sterile. In about one-third of the cases the catarrh persisted in a modified degree.

Treatment of Spasmophilia.—Van Derslice (*Illinois Medical Journal*, Feb., 1920) gives the prophylactic treatment as consisting of maternal nursing, sunlight and fresh air. The dietetic treatment consists mainly of human milk, or failing this, the early use of eggs and meat juices with cereals, bread, butter and vegetables. Medicinally, calcium lactate and calcium chloride are the drugs most frequently used in doses of twenty to thirty grains three times a day; codliver oil with phosphorus and parathyroid extract are also recommended. For the attack it is advised that the alimentary canal be well cleared by a full dose of castor oil followed by bromides and chloral. All food should be stopped and only water given for twenty-four hours. The giving of water, two ounces every two hours by the nasal route, with or without the addition of sodium citrate to each feeding, has given considerable success.

Non-surgical Treatment of Chronic Otitis Media.—Hot douches of 1-5000 bichloride of mercury and the avoidance of oils, pastes and powders is the advice of Brehm in *South-western Medicine*, Feb., 1920. Autogenous vaccines, instillations, removal of tonsils and adenoids and straightening nasal deformities are also recommended. Those cases in which the bacillus pyocyanus was found to be present were most tractable to treatment, while those in which an unclassified, slow-growing diplococcus was present were the least likely of cure.

Treatment of Erysipelas.—Local applications. (H. Guy, *Journal of Cutaneous Diseases*), either one or more, may be used as follows:

1. Ichthyol: (a) ointment, 10, 20 and 30 per cent.; (b) aqueous solution.
2. Boric acid ointment, plain and with the addition of small amounts of menthol and phenol.
3. Collodion.

4. Tincture of iodine, pure and diluted.
5. Magnesium sulphate in iced aqueous solution.
6. Phenol (pure).
7. Boric acid saturated in iced aqueous solution.

The general treatment is largely symptomatic. Liquid diet and complete rest in bed. Sponging when the temperature becomes excessive. Ice cap when headache is severe.

A polyvalent antistreptococcic serum may be used in all cases. Some 75 per cent. of cases are favorably influenced by this serum.

The Treatment of Malaria.—Dr. W. H. Willcox, in a recent letter in *The Lancet*, points out that the method of administration of quinine is most important. In his opinion, the intravenous method is the one in which the greatest therapeutic effect is obtained. Closely following this method is the intramuscular injection and, *longo intervallo*, administration by the mouth and rectum. The subcutaneous administration of quinine is liable to be followed by necrosis and suppuration and is best avoided. As regards dosage for intravenous injection, doses up to 10 gr. of quinine bi-hydrochloride dissolved in 10 c. cm. of normal saline are most suitable and sufficient. In conditions of collapse it is advisable to use larger quantities of saline, *e. g.*, one pint. In cases of malaria presenting acute cerebral symptoms the administration of quinine intravenously is of as much urgency as is the application of surgical measures in a case of fulminating appendicitis. A delay of a few hours may mean the death of the patient. Toxic effects of quinine are most likely to follow large doses by the mouth than by other methods. Before administering quinine in large doses the patient should always be questioned as to his susceptibility to toxic symptoms, and if there is any fear of this, or if the patient has not had quinine before, small doses should be commenced with.

Principles of Treatment.—Coleridge says, "He is the best physician who is the best inspirer of hope" (*Therapeutic Digest*, Mar., 1920). The men who succeed best in medicine have best the power of impressing on their patients a belief that they are going to get well, and that everything possible is being done for them. In prescribing diet the individual must come first, the disease afterwards, is the view held by Dr. Robert Hutchison (*Practitioner*, Sept., 1919), because idiosyncrasy, personal peculiarity, applies more to diet than to almost anything else. In acute diseases it is well to state in writing what he is to eat; in chronic disease it is better to make a list of the things he is not to take and leave the rest to his own choice. Before ordering any particular article of diet find out whether he likes it, and how it agrees with him. Never forbid a very good article without a very good reason. In chronic disease variety must be retained at all costs.

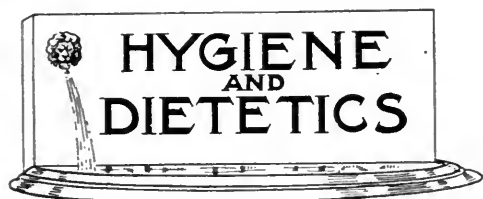
so if an article disagrees it is better to reduce the amount than forbid it. When changes in diet are necessary it is better to make them gradually than suddenly.

"In many cases," says Dr. Hutchison, "drugs are not needed, but in many others they are. When they are needed we should know just what we can do with them and then use them boldly. As far as possible it is best to use one active drug at a time, but occasionally better results can be obtained from two, three or more drugs so combined as to secure teamwork."

Nasal Drill in the Treatment of Adenoids.—Hickling (*British Medical Journal*, Jan. 31, 1920) has found that the use of a nasal drill by children suffering from adenoids is of distinct advantage in suitable cases as a means of relieving the symptoms. The drill was carried out weekly by a class of twenty children for a period of six months and the children were encouraged to go thru the drill at home under the supervision of their parents. The drill is as follows:

In a room with the windows wide open, the children are placed as far apart as possible, standing, and are given each a piece of soft paper as a handkerchief. Then at the command: One, all stand erect—chest out, shoulders erect, etc.; two, hold paper ready spread out in the left hand beneath the nostrils; three, grasp the nose between the eyes, leaving the nostrils open, with the elbow at the level of the shoulder; four, blow down the nose, bowing the head forward and down and at the same time depressing the elbow to the waistline, the top of the nose still being held; five, breathe in. Repeat three, four and five, rhythmically about ten times and then burn and replace the soiled paper. Next, the nose is irrigated by inducing sneezing with a mild, non-irritating snuff of menthol and soap, which is flicked on the septum just within the nostril. After sneezing, the nose pumping is resumed and then the sneezing and pumping are repeated until there is little or no discharge. Lastly, breathing exercises are performed thru first one and then the other nostril and finally thru both. The importance of nose breathing is emphasized, also the importance of the daily nose toilet.

The local results are chiefly diminution in the discharge and in some instances a decrease in the adenoid growth, tho this result is by no means marked. There is, however, a marked improvement in the general condition of the child. The carriage is better, there is less mouth breathing and snoring, the child is less subject to colds, the sleep and appetite improve markedly so that there is an increase in weight and the speech and hearing are much improved. It is concluded that in cases where operation is inadvisable or where the actual hypertrophy of tissue is small, this procedure is of advantage. Also the suggestion is made that the drill would be of distinct use in postoperative cases, and as a means of preventing the development of the condition in nursery schools and infant schools.



Boiled Vegetables for Diabetics.—Von Noorden called attention to the fact that the boiling of vegetables removed some of the carbohydrates, and Allen applied this fact by using thrice boiled vegetables in the dietary of diabetics. An editorial writer in the *Jour. of the Amer. Med. Asso.* (Mar. 6, 1920) says that until recently the degree of removal of carbohydrates from different vegetables under repeated boilings had not been extensively studied from the quantitative point of view. This gap in our knowledge has now been partly filled by the work of Cammidge, who has analyzed seventeen of the commonly used vegetables after boiling once, twice and three times. He found that the number of boilings necessary to remove all carbohydrate varied with different vegetables. In the case of celery, rhubarb and spinach, two boilings sufficed to remove all carbohydrate. In the case of white turnips and carrots, three boilings were sufficient; but in the case of all the other vegetables tested there was still carbohydrate varying from 0.1 to 1 per cent. after three boilings. There appeared to be no direct relation between the amount of carbohydrate originally present and the number of boilings required to remove it. The serious drawback to the use of thrice boiled vegetables has proved to be the lack of palatability that results. It is difficult to serve in an appetizing form the resultant mass of vegetable material, and the removal of the carbohydrates is accompanied by almost complete removal of the original flavor. This can be remedied to some extent by mixing clear broths or similar flavoring substances with the vegetable purée. It was some time ago suggested by Ruth Wardall that repeated extraction of the vegetables at a temperature considerably below boiling might accomplish the same result as boiling, without interfering so seriously with the palatability of the vegetables. Cammidge also tested this method of extraction and found that just as satisfactory results could be obtained and that the vegetables were left in a much more palatable condition.

Hygienic Treatment of Constipation.—Murphy, in the *New York Medical Journal* of November 8, 1919, states:

1. Constipation is preventable and not hereditary.
2. Primary causes are carelessness, ignorance, or laziness, or all three combined.
3. True constipation has to do with mal-

elimination from all parts of the body, thus clogging the system with worn-out or poisonous material.

4. 'Plenty of water should be drunk to supply the necessities of the body in all its parts.

5. There should be absolute regularity as to time of stools, which should be the first thing on arising without regard to whether there is a call or not.

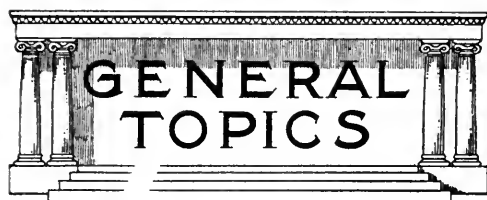
6. If one fails to get a stool at the early morning trial a plain water enema should be taken at once; one should not wait until later in the day.

7. A plain water enema taken at this time is the least harmful of anything, far less than physic.

8. Special diet has less to do with bowel constipation than many people believe.

9. Cathartics will not cure constipation, but are more likely to aggravate the condition.

Feeding Experiments with Raw and Boiled Carrots.—Minna C. Denton and Emma Kohman, in *The Journal of Biological Chemistry* (Nov., 1918), give the profession the result of their investigations and observations on the nutritive value of carrots as a diet for albino rats. In these days of economizing and food substitution, such an investigation is interesting, proving as it does a fairly strong case for one of our humble root vegetables. The use of some of these has been suggested to take the place as far as possible of the cereals, and to supplement the vegetable oils. The practice of dehydrating vegetables is growing yearly. When carrots were supplemented with starch, purified casein, butter or lard, and salts to such extent that 50 per cent. of the caloric value of the diet was still derived from the carrots, the animals maintained normal growth and reproduction. An exclusive diet of carrots, except for the addition of calcium, phosphorus, sodium and chlorine, was borne well by the rats, as they remained in apparently good health for sixteen weeks, altho there was no growth on these rations. The exclusive carrot diets produced a constant and considerable degree of diuresis. Ordinary methods of cooking do not appreciably injure the nutritive value of the carrots, especially when they are a component of a mixed diet. However, apparently a portion of the caloric value is lost if the water used in cooking is rejected. Carrots possess a considerable amount of both the water soluble and fat soluble vitamines. An observation of interest in connection with the relation of diet to dropsy is that the authors ascribe at least equal importance to the protein or nitrogen content of the diet, rather than to a lack of fat, which has been considered a factor in the "war dropsy." A large number of the rats fed on the carrot diet developed dropsy when the proportion of nitrogen was reduced by the addition of some non-nitrogenous foodstuff, such as fat or starch.



GENERAL TOPICS

Health on a Submarine.—The following interesting facts are taken from a recent article in *Paris médical* (Dec. 20, 1919): The bulk of a submarine does not indicate the volume of respirable air aboard, for the equipment greatly diminishes the size of the interior. Ordinarily, the amount of air for each man does not exceed ten to fifteen cubic meters. When submerging, it is necessary to assure a sufficient supply of respirable air and to guard against the accumulation of hydrogen. The atmosphere is also vitiated by the gas given off by the machinery; odors from the machines, the kitchen and detritus of all sorts complete the pollution of the air. It is not necessary to renew the supply of oxygen unless the submersion lasts more than sixteen hours. The gases which arise from the machinery are hydrogen, vapors of sulphuric acid, chlorine from the entrance of sea water into an electric circuit, and carbon dioxide.

Submersions of average duration do not have a notable effect on the health of the crew. Short submersions cause slight lowering of arterial tension, which disappears when the ship returns to the surface. Long cruises produce in certain subjects a degree of arterial tension which reaches one or two degrees with the Pachon apparatus. They also cause a decrease in the number of red cells; anemia is constant with sailors who have been on a submarine for a long time. The intoxications on board are accidental and due to bad functioning of the machinery. The nervous system is affected by the noise, the vibrations and the vapor, which sometimes cause headache, palpitation and insomnia. The lack of exercise and the monotonous diet cause dyspepsia. The insufficiency of means of cleanliness predisposes to cutaneous disorders. In spite of progress made in the hygiene of the submarine, such navigation is painful, and in time exacts great usury from the organism. Ten years of submarine navigation represent the maximum length which can be assigned to this career. [Notwithstanding these apparent drawbacks—and there are drawbacks to every form of service, says a writer in the *Prescriber* (Apr., 1920)—life on a submarine would appear to possess a fascination equal to that of aviation.]

"A Straight Talk to a Cold."

Mr. E. V. Knox's collection of verse entitled "A Little Loot" (George Allen and Unwin, Ltd., price 3s. 6d.) is brimful of wit and gentle satire

turned on the common things of life. This apostrophe to the common cold may instruct as well as amuse by reminding us of our inability to deal in any effective way with the commonest of minor ailments.

Cold, hast thou ever thought, I wonder,
How earnestly for thee men toil,
What woods, what wildernesses plunder,
To rid them of thy cold?
How the fell bane that here hath gripped us.
Makes hunters, lean and spare,
In lands afar (whose name has slipped us)
Follow the frightful eucalyptus
Into his low-dug lair?

How chemists, snatching up the pestle,
Ammoniate the mild quinine;
How many a jujube-laden vessel
In London docks is seen;
How men buy comforters and pin 'em on,
How Scotchmen in the Fleet
Are heard to say to waiters, "Dinna, mon;
I'll tak' a twa three draps of cinnamon,
And no the whuskey neat?"

(Not that I've ever heard 'em do so
But still I rather like that rhyme.)
O Cild, surrounded by thy trousseau
Of handkerchiefs, what crime
Have I committed that thou huggest
This bosom in thy hold?
Was I the fondest form, the snuggest
To cling to, and defy the druggist,
Thou fair and cruel Cold?

In vain the menthol and the camphor,
The mustard and the Shetland shawl,
These things thou dost not care a damn for,
Thou hast me in thy thrall;
What art thou, Cold, and whence arisen?
How did I take thee first?
Whose eyes of old didst thou bedizen
With tear-drops, and what brain imprison.
O sorceress accurst?

Was it, in fact, some total stranger
From whom I caught this vile catarrh,
Or was some loved one the exchanger?
'Twere comfort from afar,
Howe'er so obstinate the chill is,
To dream, to muse, to think,
"This was the cold of Amaryllis
That makes my cheeks as white as lilies,
My nose a salmon pink."

But no! Importunate arrival,
I may not track thee to thy start,
I may not shorten thy survival
By drugs from any mart;
This much remains, with spice and essence
And odours of the East
To modify thy effervescence
And make men cower before thy presence;
That is some fun at least.

Many of Mr. Knox's pieces have appeared in *Punch*. We acknowledge, in reproducing the ode to a cold, the courteous permission of the publishers.—*The Lancet*, Dec. 27, 1919.



NEWS NOTES AND ANNOUNCEMENTS



A Life Cut Short by Prohibition.—It is reported in *The Sun* and *Herald* that Thomas Morris, of Grand Island, Neb., died there recently at the age of 126 years. It is asserted that the statement as to his age is absolutely authenticated by the old family Bible which contains the record of his birth in North Wales on January 15, 1794. His death is attributed to the fact that he was no longer able to get his daily modicum of whiskey.

Settlement of Claims Under War Risk Bureau of Insurance.—Settlement of 127,151 insurance claims, for death and total permanent disability, and representing a total value of \$1,135,552,173.45, is announced by Director R. G. Cholmeley-Jones of the Bureau of War Risk Insurance. Only 5,119 claims are pending and in these cases the claimants are beneficiaries in many instances residing in foreign countries where disturbed conditions render communication impossible.

It now requires only about five days from receipt of final evidence of death in an insurance case for the issuance of the first check, and frequently cases have been handled even more rapidly in the Compensation and Insurance Claims Division of the Bureau.

In cases of total permanent disability, men have been examined, the award made, and the first check placed in their hands, all within a very few hours.

Prohibition That Does Not Prohibit.—A few weeks since the report went out, says the *Medical Record*, that the alcoholic ward at Bellevue Hospital was to be closed for lack of patients, that the Municipal Lodging House was practically vacant, and that the number of "alcoholics" in the city hospitals had been diminished to from one-fifth to one-third their former number, Bird S. Coler, Commissioner of Public Welfare, now asserts that the wards are not only not empty, but that the number of patients is increasing and that many of these persons are in a serious condition owing to the fact that they are getting much worse liquor than when the traffic was regulated. He threatens to send out inspectors if there is no better enforcement of the prohibition within the next thirty days. It is notorious that any

one wanting a drink of whiskey in this city can get it without difficulty if he has the price; but a sick person who may need alcohol to save his life is allowed only one pint in the course of ten days, or an ounce and a half a day.

National Physical Education Service.—Representative Simeon D. Foss, of Ohio, who is chairman of the Committee on Education in the House, has introduced a bill initiating physical education on a national scale. Senator Arthur Capper, of Kansas, has introduced a similar measure in the Senate. The fundamental aim of the bill is to give every child between the ages of six and eighteen years the opportunity for a periodic health examination, practical instruction in the principles of healthful living and training in physical activities which insure a high degree of resistance to disease and a properly coordinated, physically efficient body.

The schools, with the cooperation of the departments of public health, furnish the most effective existing machinery thru which to work out this program. The sponsors of the bill have kept in mind the dual aim of safeguarding state autonomy and insuring that the work done will measure up to reasonable minimum standards. No arbitrary authority is given to any Federal official or department. Federal authority is to administer only the explicit provisions of the Act.—*Modern Medicine*.

Do Movies Hurt the Eyes?—The fact that millions of people go to motion picture shows thruout the United States daily without experiencing any discomfort to their eyes, or that such eye trouble that is found is not traceable to "overindulgence" in the movies, would seem to indicate that motion pictures are not injurious to the vision.

It is true, of course, that some people do experience a certain amount of eye strain at a motion picture, but in these cases the trouble appears to be due to an ocular defect rather than to the motion picture. Such persons should, therefore, have the eyes examined by a competent eye specialist, for it is quite certain that the same person would find even more discomfort in the same period of concentrated reading.

In this connection it may be pointed out that employees of motion picture playhouses, who spend a large part of the day looking at the pictures, do not seem to be troubled with their eyes any more than the average individual. This is largely a personal observation since no extensive investigations have been made of the eyes of motion picture theater employees.

It is safe to say a person may witness a picture play lasting about an hour and a half each day without straining the eyes or experiencing any discomfort, provided the eyes are good and there are no hidden defects to the vision. Indeed, it is not unlikely that a motion picture show might be the means of advising one of a faulty vision.

In case of eye trouble coming on after concentrating the eyes on the printed pages of a book for a long period one does not blame the book, but thinks at once of the eyes and the probable need of glasses.

Eye discomfort in the movies should, therefore, be regarded as a danger signal and should lead the sufferer to the doctor's office for an examination.

When Black Turned Pale.

A colored man whose name is White
Has got me out of whack,
For, while I know the man is White,
I know that he is black.

I've seen another curious sight,
And so perhaps have you;
I know a man who's always white
And yet he's often blue.

And there's another funny man,
He really is, I ween,
For while he's white from tip to toe
He certainly is green.

Of costly books he owns a stack,
He even reads in bed,
And though I know his name is Black
He's certainly well read.

He always threatens to "come back,"
In accents far from mellow,
But though his fighting name is Black,
We know that he is "yellow."

But this man's neither white nor black,
He's well known in our town—
Nor is he yellow, green or red,
His name is simply Brown.

—*The Homeopathic Recorder.*

General Wood and A National Department of Health.—"What we need in this country," said General Wood, in a recent speech to medical men at Battle Creek, Mich., "is a sound national department of public health, a health bureau with a medical man at the head of it as a

member of the cabinet. It doesn't make any difference who establishes it. It is a thing that is bound to be done. Our public health service is now scattered thru a dozen different departments under as many different heads. What we need is one centralized department, nation-wide in scope, to take care of all national problems of health and sanitation.

"The average layman doesn't realize what great advances have been made in the medical profession in the past few years. I do not suppose in any war in history medicine and surgery have done as much as they have in the late war.

"You can do a great deal under dramatic stimulus of war, just as we did in Cuba. There we had to rid the army of yellow fever and so great was the pressure that we were justified in trying out our theories upon human beings who volunteered and, fortunately, only one or two of them died. Out of that, however, came the control of yellow fever and the control of malaria. The British had given us the first experimental work in that direction and then came the work of that wonderful American Commission, Walter Reed, Lazear and Carroll, on yellow fever and its control. That commission saved us more lives and money every year than the war cost us and it is a possession which is everlasting. It has aided in making the tropics and semi-tropics safe for white people for all time.

"Then, again, we took hold of the Panama Canal, and it was built on the sanitary foundation laid in Cuba. The work of Walter Reed and his associates in Cuba made the work of Goethals and his associates in Panama possible. Delesseps and his French associates were just as good engineers as we were; they were quite as resourceful, and just as brave.

"We have no monopoly on any of those qualities; but they could not build the canal because they could not stand the terrific death rate. General Goethals, the engineer, went in hand in hand with General Gorgas, the sanitary expert.

"The sanitary methods of the medical profession have worked tremendous benefits for humanity. In fact, it was the work of medical men in very large part which made it possible to maintain a fighting force on the lines."

Appropriation for History of War Approved in Senate.—The efforts in behalf of a medical and surgical history of the World War now promise to be successful, says the *J. A. M. A.* (May 29, 1920). The Senate Committee on Appropriations has made provision for the publication of such history by the insertion of an amendment in the Sundry Civil Bill that \$75,000 be expended for this purpose. It is generally understood that the Senate will adopt this amendment which was approved by formal resolutions of the American Medical Association at its annual session in New Orleans this year. Surg.-Gen. M. W. Ireland made a special appeal to the Senate Committee in behalf of this appropriation.

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In Advance

Sanitation and Tourists.—The summer exodus is already begun and large urban populations are betaking themselves to the seaside, the mountains, the rural sections and various other places claiming or alleging summer attractiveness. The problems of summer hotels, boarding houses, camps for boys and girls are not fully appreciated with relation to their potential affects upon the health of the visitors or of the communities to which they will return later.

A Maine Department of Health *Bulletin* points out the status of some of its hotels in a manner replete with suggestions. Only 8.7 per cent. were rated as excellent, 9.1 per cent. very good, 57.7 per cent. good, while 17.8 per cent. were rated as fair, and 6.7 per cent. were held to be poor. Sanitary condition was made the index of the rating and probably the results are as satisfactory as would be found by similar investigations in other state-wide investigations.

It is interesting to note the character of health regulations that were violated, which included food in kitchen exposed to dirt, dirty refrigerators, food and garbage exposed to flies, kitchen lacking screens, common towel for food handlers, common drinking cups, and, in a single instance, bed linen not adequately changed and in another hotel a sewage overflow to the street. The relation of these violations to personal comfort, cleanliness and health are too obvious to require discussion. The carefulness of

the Health Department in granting certificates is evidenced by the fact that while there were sixty violations filed because of a lack of water analysis, certification demanded this sanitary provision to be complied with.

In the state under question the two hundred and fifty-three hotels visited had accommodations for more than 24,000 persons and employed 2,200 males and 3,900 females. It was estimated that during 1919, 600,000 visitors went to the state and spent from twenty-seven million to thirty million dollars. The importance of the sanitary inspection is further emphasized because only about 30 per cent. of the hotels in the state had been inspected, while a study and inspection of camps had scarcely been begun. The necessity for safeguarding the health of summer visitors is apparent in the interest of the strangers within the gates and for the protection of the community in which they are sojourning, as well as for the further protection of the various states to which the tourists will return.

The long trail of diseases contracted in summer shelters indicates the importance of a more complete system of sanitary inspection and public health supervision than has thus far been attempted. The success of urban communities in moderating the burdens of summer illnesses demonstrates what may be accomplished thru modern public health work and should serve as the basis

for further efforts in the prevention of diseases in localities boasting a summer colony. Particularly is this true in connection with the widespread movement for summer camps for the youthful population. It is highly desirable that such camps be duly inspected and licensed by state health officials before being permitted to open for the season. This phase of health supervision has been seriously neglected and in consequence unnecessary penalties have been paid by those taking advantage of their recreational offerings. The regulations dealing with the sanitation of food handlers, the inspection of kitchens, water supplies, wastes, and the provision for food should be thoroly enforced under state direction and all the more so because of the temporary character of service to vacationists.

There are undoubtedly many obstacles in the way of securing adequate sanitary inspection but certainly an industry bringing such large remuneration to the inhabitants of the state, should be able to pay a fair tax or license fee covering the special investigatory service required. The additional cost to the individual vacationist would be practically negligible and would be willingly paid for some greater assurance as to the healthfulness of the hotel, camp, or institution to which he had gone for the benefit of rest, recreation and physical rehabilitation.

Attacking Epidemics.—The experience of the world with epidemics constitutes a social tragedy whose breadth and depth stagger belief. The raging "flu" acquainted the present American generation with the potential destructive force of a single disease whose course is difficult to stop and whose control has escaped present sanitary

knowledge. With it all the interest lay in the severe mortality while insufficient consideration was given to the economic results arising from the morbidity with its various complications and sequelæ. There are diseases, for example, such as malaria, whose annual prevalence mounts into the millions, but whose death rate is insufficient to attract much attention. The economic loss from malaria, however, is exceedingly high and the limitation of man power due to this cause entitles it to recognition as one of the serious disease liabilities of the country. According to the United States Public Health Service, there were in British India during 1917, 267,002 deaths from cholera, 62,277 from smallpox, 437,036 from plague, and 4,555,221 from "fevers," a large proportion of which was due to malaria. These striking figures illustrate the perils to life from endemic diseases. The social and economic losses resulting therefrom and in turn serving to furnish more fuel for raging diseases is beyond rapid and accurate computation. The significance of the epidemics existent thruout the world is more than local. The lines of travel and transportation have united far distant countries so directly that the diseases of one nation have become the concern of all nations. Typhus, bubonic plague, cholera, and the various other highly communicable diseases that are present in Asia, Africa and Europe are matters of concern and interest to the Western Continent.

The excellent system of quarantine and inspection under the auspices of the United States Public Health Service is the main barrier protecting the United States from imported epidemics. Every precaution is required to prevent the transference of European contagion to the United States. As the spectre of contagion marches west-

ward from Asia and Eastern Europe, the possibilities of American contamination increase. At the present time there is a comparatively small area intervening between highly infective foci and ports of emigration and freight distribution. The peril to this country is not fancied but real, and every possible effort should be made to maintain intact our protective machinery and to elaborate our methods of control in event of the appearance of infected individuals in our American ports, or perchance, on the mainland.

As a means of further safeguarding American safety and with a view to decreasing the potential danger from the various communicable diseases now sweeping over the Eastern Continent, one might ask, how far American funds and agencies should be employed in fighting against perilous diseases where they are now rampant? It would appear to be sound judgment to attack infective foci wherever they exist by joint international action in the interests of the health of the world. The efforts of the Red Cross in this direction are recognized as being based upon a wide understanding of constructive and humane activity. The quarantine officers stationed at various ports in Europe endeavor to keep watch of the situation involving communicable diseases and to advise concerning them. This particular function is helpful and advantageous but to a large extent is too negative to be effective in limiting the spread of the diseases which are threatening.

With the financial status of European nations at a doubtful level of safety, there is great need for assistance from external sources to combat the internal disorganization resultant from famine and disease. It is in these two directions that Americans can be of vital assistance to other countries

and at the same time further assure their own greater protection against numerous difficulties that impend unless there is a marked change for the better in the health conditions of Europe. Every possible measure of assistance in the control of endemic diseases should be given under the auspices of an international organization such as the Red Cross or the League of Nations. Contagion possesses no nationality and its international relations cannot be solved by diplomatic representation or correspondence. The attack upon diseases must be definitely organized, financed and controlled on an international basis and it is to be hoped that in this direction the leadership of the United States may express itself. The greatest possible advantage will accrue to all nations but the greatest of all will be the benefits conferred upon those countries whose shores will thus be permitted to escape a foreign invasion far more difficult to meet and subdue than that any enemy's army and navy might attempt.

Nutrition and Welfare.—The present feature in work among children is the establishment of means for combating malnutrition. A variety of agencies is being urged to offset the serious handicaps resultant from inadequate or unbalanced dietaries. Some advocate the institution of school lunches; others the establishment of nutrition classes; while still others urge more attention upon domestic science work in connection with elementary school education. The advocates of each of these plans have fastened upon a single phase of the same general problem and each deserves consideration as part of a general plan for antidoting malnutrition.

Unfortunately, the existent criteria for undernourishment are unsatisfactory. Tables comparing age and weight, height and weight, or weight for age and height possess a varying degree of unreliability, altho the last named is the most satisfactory of the three. The question of musculature, the amount of subcutaneous fat, the posture, and the facies—all play a part in determining the existence, non-existence or degree of undernourishment. The presence or absence of tuberculosis, rickets, lues, or other diseases of childhood is of the utmost importance in determining whether the malnutrition is primarily due to dietetic inadequacy or to some pathologic condition.

Eating habits involving haste, the excessive use of coffee, tea and other stimulants, faulty mastication, and constipation, play an important part in producing malnutrition as does a lack of milk in the dietary anxiety, distress, overwork, lack of sleep and an insufficient supply of leafy vegetables. One may add the contribution to malnutrition incident to defective oxidation due to hypertrophied tonsils and adenoids and large turbinates and chronic, tho benign, respiratory afflictions. Thus it is patent that malnutrition, itself, is merely a symptom, the relief of which depends upon an interpretation of its underlying causes. The mere administration of a school lunch will not offset the undermining of vitality consequent upon severely carious teeth with accompanying glandular enlargements. The establishment of nutritional classes, *per se*, with advice relative to the daily dietary will not offset the nutritional disadvantages of inadequate rest and a lack of ventilation in the home.

It is essential that there be a further interpretation of all the elements entering into undernourishment, whether on the econom-

ic, social, dietetic or medical side. Determination of the nutritional needs during childhood is insufficient because provision and oversight are required to insure their benefit to the children. It is doubtful whether the term "nutritional" is indicative of the actual work involved in such an organization. In a sense all work with children that aims to further their growth and development is nutritional in character. When, however, decayed teeth are extracted, home habits corrected, enlarged tonsils are removed, and defects in general are remedied, the term "nutritional" is too limited to describe the effort made in behalf of any individual. If in addition social service visitors go to the homes and a general health oversight is exercised over home hygiene under the auspices of a class for children, the term "nutritional" is glaringly superficial as descriptive of the intent, nature, or method of raising the standards of child welfare. As a temporary expedient stress is placed upon nutrition in the same way that the supplying of milk at a milk station was originally emphasized. Today the better nomenclature speaks of the Infant Welfare Station. In due time probably, the Nutritional Class will give way to the Child Welfare Station, and for purposes of economic administration and general social usefulness the two classes of work will be combined. Thus continuity of home oversight and direction will be secured and the importance of nutrition will be subordinated to the other factors of infant and child welfare.

It is undeniable that educational methods play a tremendous part in shaping the destinies of children. The provision for improved teaching of domestic science is obvious, but at the same time its weakness is apparent in that it does not function

properly as at present developed. The education of the child in matters of foods does not carry over into the home with the force and directness that are secured thru the efforts of a visiting housekeeper, a dietitian, or a capable social visitor. The education of the home in the interest of the children is better secured in the home and for this reason all nutritional work with children requires some agency that can unravel the mysteries of home life and adjust them to the needs of the growing population thru the medium of sympathetic and personal advice and counsel. The school lunch plan as such does afford a splendid opportunity for supplementing an unbalanced dietary with the foods richest in vitamins, minerals and the types of nutrients most favorable to the welfare of school children. Such lunches, however, cannot destroy the effect of home conditions unfavorable to growth and development unless the dietetic lessons are carried over into the home by some particular effort to reach the mothers.

In consequence of the close relationship existent between home conditions, home habits, home dietary, and the growth of individual children it is necessary to attack the problems of malnutrition thru the home even more than thru the school or the dispensary. The leverage upon parents frequently may be exerted by the doctor and his co-workers more successfully than by the teacher. This is a matter for adjustment in various communities and depends upon the existence of the necessary machinery for undertaking the different types of work required. A fundamental requirement, however, is a wider use of educational methods that penetrate the home and that inculcate an understanding of the inter-relation of child welfare and home welfare. This is far more than a

question of poverty or social inadequacy because it involves an altogether too general ignorance concerning the multitude of factors that constitute the bases and sources of child health. For this reason it is highly desirable that the term "Nutritional Class" receive decreasing emphasis and that the term "Child Welfare" be given greater prominence in our effort to combat malnutrition in all its varying forms and emanating, as it does, from innumerable sources.

The Problem of Rural Medicine.—Before the Great War there was a tendency for medical men to flock to the large cities. Since the Armistice and the return of the military force from overseas this tendency has become more marked, until today there are numerous communities which are comparatively isolated from all medical attention. The unhappy results of this depletion of rural districts of medical and nursing agencies were manifest during recent epidemics. The necessity for provision for the care of the sick for all sections of the country is an increasing problem the solution of which requires careful thought.

R. Olesen in *Public Health Reports*, April 16, 1920, briefly describes a plan undertaken in one community of Wisconsin which is seeking to make provision for their own medical care by the provision of conditions that may be expected to appeal to medical men. "It is planned to levy a sufficient tax to provide an annual retainer of \$1,000 for a physician who shall practice medicine and surgery in this locality. Furthermore, it is proposed to bond the township sufficiently to provide funds for the erection of a physician's residence, the cost of which shall not exceed \$5,000. The physician will be permitted to reside in this

dwelling and also to have his office therein without the payment of rent. A suitable garage and barn will also be provided.

In return for the annual salary of \$1,000 and the rent-free residence, office, garage, and barn, the township board reserves the right to prescribe the fees which shall be collected by the physician. Tentatively the charge of \$2 per call made within the township boundaries, together with mileage at the rate of 50 cents per mile traveled, has been set as the fee the physician shall collect. When a call is made outside the township the charge shall be \$3, with the same mileage charge. However, \$1 of each \$3 fee so charged shall revert to the township treasury. Charges for confinements, operations, and other unusual attendance are to be made in accordance with the county medical society's fee schedule."

In addition to ordinary medical practice, the community physician will be called upon to act as health officer, to serve as school physician and care for the indigent supported by the township. Thus, in a sense, is established a community physician working on a quasi-partnership basis with the district he is to serve.

The practical success of this plan will be watched with interest. It has various commendable features which should attract the young physician capable of affording competent medical attention and willing to assume a higher measure of responsibility than ordinarily is placed upon a general practitioner in rural communities. As a citizen, a health officer, and a generally useful public servant he is immediately clothed with unusual dignity and authority.

In New York State there are probably more than fifty communities desirous of securing a dependable practitioner to safeguard the health and welfare of scattered

populations. The growing dearth of physicians of high calibre willing to live under conditions of rural practice creates a serious problem. Scientific medicine, as at present constituted, appears to require urban conditions or else some alteration in our present scheme of medical service in the smaller cities, villages and rural sections. The rural problem cannot be satisfactorily explained on the basis of inadequate compensation. Numerous physicians are anxious to serve in institutions permitting of scientific research at rates of compensation far lower than those obtainable from rural practice. Their interests in specific phases of medicine and the pleasure derived from service form part of their intangible compensation which adds greatly to their contentment.

For the solution of the rural problem there is required, in all probability, a readjustment of our ideas concerning practice. If districts are to provide their own medical attendance and assume the responsibility for modern facilities there will be in reality a form of district medical service analogous to that existent in Russia. The community physician will be released from the burden of competition and established as a public servant, sought and paid for by public funds. No single individual will be found equally capable in all branches of medicine, and in consequence some new medical machinery will be devised to compensate for the reasonable inadequacy of the individual thus selected. This will lead to a re-organization of hospital and dispensary practice, altered systems of laboratory development, the introduction of health centers, and the creation of a system of communal medicine more or less at variance with present conditions altho not contrary to the tendency towards social organization.

Whatever may be the outcome of special experiments in this direction, the fact remains that rural practice is undergoing marked alterations thru pressure which will result in an advancement and improvement in the type of service to be made available. The organization of rural medicine is not practicable, but a new form to be developed will supply all the features required in a manner properly adjusted to the particular needs of these excellent communities now suffering from medical isolation or insufficient provision along familial and public health lines.

Housing and Health.—While the housing situation is acute, the period of difficulty will be slightly lessened by reason of the summer season, which will enable a large group of families to take advantage of tent life under municipal or private auspices. When the autumn season returns, however, housing will again become a serious question. The public health aspects of shelter carries with it an appreciation of the idea that houses must be considered as the center of home life and as a center of human activity besides serving as a protection against the elements.

In discussing "The Sociological Aspects of Housing," Wile (*American Journal of Public Health*, April, 1920) calls attention to the necessity of a comfortable as well as sanitary home in the interest of public welfare. The financial difficulties centering about rentals tend to destroy personal standards when there is a housing shortage, because increased costs decrease the area within which the choice of a home may be made and thus there is a tendency for home standards to decline. With a static income there are limitations as to the amount of

money available for the various items entering into familial welfare and if an increased expenditure is made for shelter, restriction in outlay must follow necessarily for food, clothing, and recreation in those families of moderate income.

It is equally patent that with an increased demand for housing, there is a tendency for landlords to avoid making necessary repairs indicated for maintenance at customary standards, and in consequence the general sanitary tone tends to be lowered. Unfortunately, there are at present no broad standards or criteria affecting housing, save in so far as numerous laws, ordinances, and regulations are provided with a view to securing health and safety, tho these, unfortunately, are not as carefully supervised as might be desired. The influence of housing upon public health is manifest in such problems as infant mortality, tuberculosis, respiratory diseases, malaria, typhoid fever, and the venereal diseases. House overcrowding, a lack of fresh air and sunshine, insanitary plumbing, leaky roofs, an insufficiency of bathing and toilet facilities, are serious factors in lowering the general health and safety of homes and thus reducing the community's vitality.

From the medico-social standpoint, the improvement of housing merits thoughtful consideration, "not merely as a part of the general plan for allaying economic unrest and the discontent now rampant, but also as a measure of promoting a higher degree of physical welfare in the community." The mental and moral effects of inadequate housing conditions recognizedly are of paramount importance in improving home standards of living. It must be obvious that home making is as of great importance as the mere fact of possessing a house in which to live. Poor housing breeds disease and

crime and lessens the responsibility of useful citizenship.

The conclusions of Wile lead to a consideration of various elements entering into an endeavor to secure the maximum benefits of an improved housing program. The suggestions made are as follows: "First, an appreciation of the sociologic and health significance of hygienic dwellings; second, the education of the public as to the natural value and importance of sanitary dwellings; third, the rigid enforcement of laws, ordinances and regulations dealing with home construction and house alterations; fourth, the promulgation of minimum standards of house construction, and particularly the regulation of standards of maintenance and repair; fifth, the establishment of some form of supervision or control that would prevent the exploitation of tenants thru profiteering rentals and unwillingness to make necessary repairs required in the interest of family health and safety; sixth, the determination of rules and regulations for proper disinfection and fumigation following the presence of contagious diseases, when such might prove a source of contagion to a new occupant; seventh, the encouragement of subsidized or non-subsidized programs of housing construction that would make available modern hygienic dwelling places at low rentals; eighth, the support by health departments of those measures tending to increase family incomes so as to bring about a minimum standard of living wage, consistent with the cost of living, in a manner that is conducive to health and comfort."

If it were possible for medical organizations to take a more active part in the human phases of medicine, their voices would be raised more frequently in the interests of society regarded as a human group. The intimate relation between medicine and

social welfare emphasizes the need for medical thought upon phases of human activity formerly deemed to be beyond the pale of medicine. The newer conception of public health medicine demands that a subject like housing be freely discussed in medical programs, at least as often as frambesia, yaws, pediculosis, diabetes insipidus, and countless other diseases which do not imperil public health to a marked extent. The medical aspects of housing have too long been neglected and this present time of stress and pressure in the housing situation represents a proper moment for medical men to focus their minds upon those elements in the problem which are not personal and allied to their own economic difficulties.

Federal Educational Aid.—Improvements in the educational world, as a result of proven needs, determined by war conditions, are receiving unwonted attention. Obviously, all efforts to raise educational standards should be reflected in an improved state of public health. Such matters as the Americanization of foreigners, at first thought, may seem unrelated to medical affairs, but it is obvious that this process is essential in order to perfect all efforts at public education regarding health conditions, particularly along the line of the prevention of industrial accidents and diseases. Similarly, the decrease of illiteracy is of utmost consequence. The selective draft revealed 700,000 illiterates between 21 and 31 years of age. According to the census of 1910, almost 15 per cent. of the population of the United States was of foreign birth, and the total number of foreign born illiterates was 1,650,000.

The appropriation of large sums of money

for war purposes has more or less accustomed the American mind to the benefits which may accrue from adequate disbursements for definite needs. The Hoke Smith bill before the United States Senate aims to subsidize local communities in their efforts to build up an intelligent and capable citizenry. The importance of public education is so great that Federal assistance should serve as the needed stimulus to bring about greater efforts towards developing a higher standard of public education, with the development of a greater spirit of democracy that realizes the intimate relations between public intelligence and public health.

The Smith bill makes provision for the appropriation of one hundred million dollars a year for Federal aid to the states in promoting public education along definite lines. The provisions of the bill include \$7,500,000 for the removal of illiteracy, a seemingly large sum, but really a modest amount compared with the benefits that would ensue as a result of the successful education of illiterates. A similar sum is provided for annual distribution to accomplish the Americanization of foreigners.

With education as a state function, it is patent that educational opportunities must vary within the several states, and that rural and village schools cannot possess the same opportunities that exist in urban centers. Some states are richer than others and are thus enabled to give more to the growing generation than are the states with a lower degree of wealth per capita. The appropriation of fifty millions annually for the purpose of the equalization of educational opportunities is a most excellent provision which should provide for an improvement of elementary and secondary school sys-

tems, and stimulate the growth and progress of schools, especially those located in sparsely settled communities.

The Health Problem.—The imperative necessity of promoting the physical welfare of boys and girls and advancing their education in subjects relating to health and recreation is sufficient reason for setting apart another twenty million dollars annually. This involves, virtually, an appropriation of approximately twenty-two cents for each person in the United States and, with an equal amount being required of the states, would establish a 44 cent *per capita*, which is by no means exorbitant compared with the serious economic losses now being incurred from preventable diseases.

Basically considered, a great weakness in the educational system lies in the inadequacy of preparation of public school teachers. Hence, the devotion of fifteen million dollars a year by the Federal Government for the purpose of extending and improving the facilities for the preparation of teachers for public schools should be of immense value. The criticisms of the products of public school systems must necessarily fall back upon the type and character of the teachers engaged in giving instruction. A set of poorly trained teachers can scarcely be expected to foster a well trained output of graduates from the public school system. The wide variety of topics now being taught in public schools, the emphasis which is being placed upon newer branches of educational value along cultural, scientific and hygienic lines makes it mandatory to raise the standards of our teachers; and this only can be accomplished by a betterment of their opportunities, and an increase in the facilities afforded for their education and training.

The Smith bill also provides for the creation of an Executive Department to be known as the Department of Education with a secretary in the President's cabinet. It is designed that this department shall administer the educational work of the government which is to be assigned to it. Whether this feature is necessary or not, the other provisions of the bill are of serious moment. The interest of the Federal Government in education has always been evidenced thru the United States Bureau of Education and some assistance has already been given to states for the promotion of vocational education. This feature of Federal assistance tends to promote the commercial value of our potential workers undergoing education. It is doubtful, however, whether the commercial assets will be greatly enhanced unless adequate provision also is made for benefiting the growing generation along lines distinctly related to their wholesome mental development and their physical welfare.

Industrial Medicine.—The growth of industrial medicine is an evidence of a humane tendency that possesses a distinct economic value. Savings to employers that result from the conscious use of the machinery of industrial medicine commend themselves, so that, today, there is little to retard the development of industrial medicine as viewed from the standpoint of employers.

The gains to employees are by no means of less importance either from the standpoint of finance or from the viewpoint of adequate industrial placement. The proper man for the proper job forms a rational excuse for preliminary medical examination

as an incident to employment. Medical selection is growing because it prevents financial wastage and protects men from taking hazards that otherwise would be overlooked. To decrease the amount of labor turnover obviates many dangers to those physically unfit, and decreases the likelihood of the spread of contagious diseases. Similarly, it is of vast benefit in the elimination of mental defectives and moral degenerates from positions for which they are primarily unfitted.

H. E. Mock, *Journal of Industrial Hygiene*, September, 1919, presents the results of medical examinations in ten large industries. Of 118,900 applicants examined in one year, 34.7% had disabilities that did not interfere with selective work, 9.7% were rejected for all work, because of disabilities, while 55.6% had no disabilities of any moment. As Dr. Mock states, it is fair to assume that those who were rejected because of disabilities would soon have lost their positions because of disabilities, or would have been obliged to cease work because of illness. The fact that these men were rejected in these ten industries does not indicate their total unfitness for all occupation. Unfortunate damage to them might have resulted, however, had they without examination been employed. They were thus safeguarded from further injury to health while the employers were released from the manifold costs incident to absence, because of illness or accident, inefficiency, or definite incapability in definite occupations. According to Magnus Alexander, the average cost per employee for all medical work averages about \$2.50. The great gain in social protection that results from this small expenditure, emphasizes the reason for its increasing popularity.

The value of industrial medicine increases "in direct ratio to the thoroness and completeness of the plan which he (the company surgeon), adopts for the conservation of the health of his employees." The great extent of development of industrial health service is revealed by Mock in "Industrial Medicine and Surgery," which is mentioned in this connection because of the immense importance of standardizing to some extent the technic of industrial medicine and the dissemination of information regarding the benefits of industrial hygiene in the promotion of public health and familial welfare, as well as in the interest of industry and social contentment.

Industrial medicine is a part of the permanent health machinery that is to raise the plane of industrial health and thus establish a higher degree of social efficiency. The protection of the health of employees is of greater significance in relation to familial progress and welfare. Industry as a phase of democratic cooperation must be made safe for the worker. It is equally true employees must be safe for industry and their co-workers.

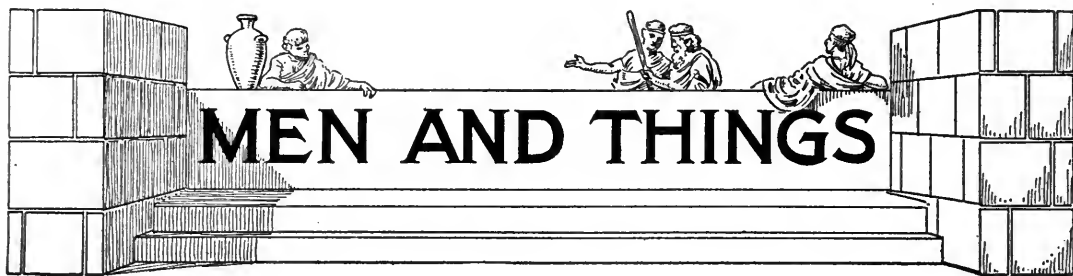
necessity of introducing well organized systems for the protection of the physical health of children, and the development of instruction in hygiene, physiology and sanitation, as well as the continued teaching of the fundamental subjects in the educational curriculum. For this reason, Federal grants for the stimulation of local interest possess undoubted advantages. It is most probable that, if the Smith bill is enacted, there will be a great impetus given to every state in the Union to attack the problems of illiteracy, Americanization and physical and health education with unusual fervor and determination. "The first wealth is health," and our educational institutions should be assisted in producing a high standard of growing citizens whose health as well as knowledge will increase the richness and vitality of the Nation.

Public health conditions in the United States will not reach their highest degree of efficiency until illiteracy no longer exists and our foreigners are Americanized, any more than public health can realize a high degree of development with a growing generation, weak in body or mind.

Under the system of state education as at present existent, the United States labors under many disadvantages which do not exist in countries where the educational control is vested in the constituted national authorities. It probably is undesirable to establish a United States System of Education, but it certainly is of the most significant importance that there is manifested a Federal interest in the promotion of educational systems. All public health officials now recognize the paramount importance of public health education, as well as the

"THE FEDERATION OF THE WORLD"

For I dipt into the future, far as human eye
could see,
Saw the vision of the world, and all the wonder
that would be;
Saw the heavens fill with commerce, argosies
of magic sails,
Pilots of the purple twilight, dropping down
with costly bales;
Heard the heavens fill with shouting, and there
rain'd a ghastly dew
From the nation's airy navies grappling in the
central blue;
Far along the world-wide whisper of the south-
wind rushing warm,
With the standards of the peoples plunging thro'
the thunderstorm;
Till the war-drum throbb'd no longer, and the
battle flags were furl'd
In the parliament of man, the Federation of
the World.—*Tennyson*.



The Psychology of Prohibition.—Early reports, chiefly tentative and more hopeful than accurate, led to the belief that prohibition was working out amazingly well. From many sections of the country came rumors of the splendid effects of the Eighteenth Amendment, the prosperity it was bringing about, increased savings accounts, decrease in crimes, the disappearance of unemployment, and the revival of home life. All these reports were welcomed by AMERICAN MEDICINE and appreciative comment was expressed in these columns, despite pre-prohibition anticipations of the evils that must necessarily follow a rash and ill-administered perversion of what might have proved, if more wisely conceived and more moderately executed, a beneficial undertaking. And these reports were welcomed in spite of the fact that they showed our power of prediction of no value. We had repeatedly warned the authorities and the fanatics against a sudden and violent change in the habits of men, quoting facts and figures in previous ill-fated attempts of a similar nature. For a time it seemed as tho we were to be exposed as scare-mongers and pessimists. Regretfully now, however, we are obliged to acknowledge that these warnings were not exaggerated and were well justified by previous experience. It gives us no pleasure to admit that we were right. Later and better balanced reports of the operation of the Eighteenth Amendment reveal a state of affairs regrettable in the extreme and not a little alarming. The recent exposure of wholesale traffic in liquor in New York, despite the watchfulness of government agents, is an appalling revelation. The statement of an authority that never have the delirium tremens wards of our hospitals been so crowded is a disheartening announcement. But to many men the situation is not a surprise. Those familiar with the psychology of prohibition were prepared for such an eventuality. This

psychology is elemental and inevitable and it has operated in the usual way; those of moderate habits have come to resent bitterly an infringement on their liberty which they never abused and those whose excesses the law was especially expected to curb have been driven to even greater excesses. Many men, in fact, who never found liquor a necessity, now that it has become a forbidden article have suddenly found that they must have it and have gone far and wide to seek it. There is nothing surprising in this. Those who found it indispensable now find it even more indispensable. That, no doubt, explains the enormous consumption of liquor, the revelation of which comes as such a surprise in some quarters. Yet it has been obvious from the very start that prohibition was not prohibitive. At all times it was possible to obtain the forbidden spirits if the price was forthcoming, and the net result of the amendment was the enrichment of liquor dealers and the impoverishment of the consumer. A most significant fact in the whole situation is the present reduction in the price of drinks—a manifest acknowledgment that consumption has increased and that the dealers are having less trouble in getting rid of their product. All this despite raids and revelations and denunciations. What are the authorities planning to do? Already the cost of maintaining a staff of revenue officers and detectives is very high. It is estimated that to enforce prohibition effectively will cost the government two billion dollars a year. Even at that price it is doubtful whether the end desired can be achieved. Will these facts rouse the prohibitionists to a realization that they have gone about the problem in the wrong way? We sincerely hope so.

Insanity Laws.—The Grand Jury which has been considering the problems arising out of the tragic death of Dr. Markoe, tho

it is composed of men who are in no sense experts, has come to several logical and obvious conclusions—conclusions which were emphasized in these columns recently. They have recommended that our insane be guarded with greater care in our insane asylums, that those declared by law to be insane in one state be regarded as such in every other state, that a uniform Federal law against the sale of deadly weapons be enforced, that Commissioners in Lunacy be appointed only from the ranks of qualified and recognized authorities on the question, and that the frequent and inadequate verdict of “not guilty but insane” be altered to “guilty but insane.” These suggestions are excellent in their way, but they are the incomplete and tentative recommendations of a body of men excellent in intention but not qualified to judge with authority, so delicate a problem as that involved in the care of insane individuals. It is hardly to be doubted that in such cases both the law and the community would be better served by entrusting considerations of a technical nature to experts rather than a jury of laymen. Sound as their findings have been, a council of experts would have proved more adequate. For one thing, such a council would not have overlooked, as the jury did, the real issue involved: the alteration of the laws governing the release of the insane from asylums and the regulation of their conduct once they have been released. The problem immediately raised by the Markoe case is not the care of the mentally deranged while they are under detention in state institutions but a closer scrutiny and watchfulness over their conduct once they have been given their liberty. Dr. Markoe’s slayer, several times pronounced dangerously insane and finally making his escape, found himself free of any restraint. He was able to mingle with his fellows without being obliged to make himself accountable to any one. Again and again, deranged individuals, pronounced “cured” or no longer dangerous by a standard of judgment that has never been uniform or trustworthy, have suddenly suffered a setback and committed violence from which the community has a right to expect adequate protection. It is here chiefly that our laws are at fault. And it is on this question that the expert judgment of men qualified to speak is acutely wanted. The sooner this problem is put into the

hands of recognized authorities, whose recommendations the state and the country will be willing to accept, the sooner such accidents, which have not been infrequent of late, will come to an end.

Fares, Rents and The Housing Problem.—The reduction to five cents of the fare to the vast undeveloped sections of Queens and Coney Island in the greater city is more than a mere triumph over the greedy traction companies—it is a step in the direction of the relief of the serious housing problem in overcrowded New York City. It is unique fact that, within easy reach of the most congested districts of this city, is a vast stretch of healthy and attractive land which has never been utilized for the one purpose for which it is eminently suitable—the building of homes. The explanation of this phenomenon was the ten cent fare, a forbidding item to the class which would be especially served by the development of these lands. A matter of five cents seems a trivial consideration in these days of inflation and liberal spending, but in the budget of the workman’s family carfare is an important item. As the rents soared skyward during the war and after, the workman solved his problem by moving into a smaller flat, crowding his family into quarters that were a menace to its health, rather than stretch his budget to allow for a double fare to and from work. From a municipal health point of view, the housing problem has become a menacing one. Never satisfactory in the poorer districts it is now worse than ever. Congestion has increased to a dangerous extent and living conditions in the poorer districts are bad in the extreme. The five cent fare, therefore, means more than a cheaper holiday ride to the seashore for the workman and his family. It means the opening up of these great undeveloped tracts to building enterprise and the ultimate temptation of the family of small income to a healthier and brighter environment. If ever there was a splendid opportunity for the health authorities of the city to engage in a campaign of publicity to educate the populations of the congested districts this is it. Builders are already availing themselves of the promise of reward. Always quick to seize such opportunities they have not failed to grasp the

significance of the present situation, and already large building enterprises are under way and are being planned. It remains now for the workers and the families of limited income to realize their chance. The municipal authorities would show excellent judgment if they would make the most of the situation and take the responsibility upon themselves of leading the slum-dwellers and tenement inhabitants out of their unhealthy homes and into the open spaces of the newly accessible tracts. Such a campaign of education is sure to meet with success at this time, in view of the low rents and the saving that such a change would involve. Both from the point of view of economy and health the opportunity is an attractive one. The enterprise of the builders, if fortified by the approval and interest of the city authorities, would go a long way toward a solution of the troublesome housing problem in the city.

Making the X-Ray Harmless.—Dr. Pesch, member of the University of Montpellier, has announced at a meeting of the French Academy of Sciences a discovery which he claims will eliminate the dangers to life and limb on the part of those working with X-rays. The discovery has won the approval of the members of the academy and is, like all true discoveries, very simple in its principle. Dr. Pesch found in his experiments that deep red rays are antagonistic to the ultra-violet ray, which produces skin-burns and certain oxidations. His discovery merely employs the red rays to counteract the influence of the violet rays and render them harmless. Thus by the simultaneous application of both rays, he secures immunity from the dangerous ones. Dr. Pesch has himself suffered from the use of the X-ray and he pursued his experiments in the hope that he might save his fellow-physicians from suffering as he has. As early as 1872 Becquerel, in his study on phosphorescence, discovered the antagonism that existed between extreme rays of the spectrum. But it remained with Dr. Pesch to utilize this information successfully. The discovery will be welcomed by all scientists as a means of making an otherwise beneficial instrument safe for the use of men who have never been deterred by thoughts of danger. It is a reward merited by their courage.

Again the Interstitial Glands.—The interest in the transplantation of the so-called interstitial glands continues unabated, and within the past month or so the newspapers have given liberal space to the work of a western surgeon, Dr. J. R. Brinkley, who came all the way from Kansas to show New York surgeons how to make the "transfer" from goats to human beings. The newspaper accounts of the operation did not



state whether Dr. Brinkley brought any goats with him, but they did record that in one case, at least, the goat that was called on for the necessary glands was obtained from the Zoo at a nominal cost of \$40.00. It is not impossible that the person who was the recipient in the operation described was, therefore, acquainted with this particular goat, and had determined certain virtues in his character, developed from his New York environment, that seemed especially desirable, if they could be acquired for only \$40.00 and the cost of a comparatively simple surgical operation. At any rate, the operation, according to report, was highly successful and the patient was expected to be able soon to "gambol on the green," with all the agility and debonair spirit of the noble animal, "who died that he might live."

We have often wondered where the expression "getting a man's goat" came from. If it is true, as the interstitial gland specialists are said to claim, that "there is a goat for every man," it is easy to understand the chagrin and annoyance that are sure to follow any attempt to appropriate or purloin any man's goat, even tho it is not an Angora, but of the ordinary garden or Zoo variety.

Another scientist, Dr. Victor D. Lespinasse of Northwestern University, has been conducting, according to newspaper report, certain experiments with the lower animals which have brought some very startling results that, to say the least, admit of far-reaching deductions.

His latest "stunt" is the transplantation of the interstitial glands of a rooster to a hen. "The results were surprising," he is quoted as saying, "and perhaps no one was more

surprised than the hen herself. Within a few weeks she began to develop all the characteristics of a chanticleer. She grew a comb and wattles. Saddle feathers appeared and finally a pair of spurs."

Dr. Lespinasse is now said to be experimenting with the interstitial glands of pigs. If he carries these experiments to the point of transferring the glands of the hog to human beings we fear the outcome. There are already too many people who seem possessed of certain porcine traits and if science is going to add to these in any way it will have much to answer for. How much better will it be, if the transplantation of interstitial glands is going to become a common custom, to select some other animal, as, for instance, the camel, a beast whose reputed qualifications in respect to withstanding thirst, would seem to promise much needed help to many sad and stricken individuals in meeting the arid times upon which the country has recently fallen.

Birth Control and the Physician.—

It has often been charged by the advocates of birth control that physicians as a class are woefully ignorant of the humanitarian significance of the movement and that they are stubbornly and unreasonably hostile to it. That, we believe, is an exaggeration. It is true, however, that physicians have shown great caution in their response to the birth control movement, but this caution was in no small measure justified by the very plain language of the law—at least language which was very plain until recently. Even the physician who was friendly to the movement could not give either his name or his aid to it without danger of coming within the scope of the law. Section 1142 of the Penal Code is explicit in its restrictions. It makes it a misdemeanor for a person "to sell, or give away, or to advertise or offer for sale any instrument or article, drug or medicine, for the prevention of conception: or to give information orally, stating when, where or how such an instrument, article or medicine can be purchased or obtained." In view of this forbidding article, the caution shown by the average physician in dealing with the problem of birth control, however favorably he regarded the theory, is quite easy to comprehend. A recent

decision of the Court of Appeals of New York State, the highest court of the State is therefore of unique interest to the profession and is so revolutionary in the interpretation of Section 1142 that we feel obligated to bring it to the attention of every physician. It is one of the most significant court rulings in medical law in recent years. The decision was given in the case of *Margaret Sanger vs. The People of the State of New York*. Mrs. Sanger was found guilty of giving contraceptive information and was sentenced to thirty days' imprisonment. During the trial, the court waived aside all pleas on humanitarian grounds with the statement that such pleas should be directed to the legislative branch of the government, the duty of the Court being merely to interpret the law as it stood. This law had been violated and the defendant was found guilty. In her defence, Mrs. Sanger therefore laid stress on her activities in so far as they were directed to prevent women who were diseased or feeble-minded or otherwise so unfitted for motherhood that the State would suffer by their bringing children into the world. She pointed out that she had given contraceptive information either to save the life of an expectant mother or to save the community from being burdened with diseased or unfit offspring. It was on this activity that the Court pronounced judgment. The decision points to the fact that Mrs. Sanger is not a physician and therefore cannot, as she did, plead the unconstitutionality of the law. "The general rule," said the Court, "applies in a criminal as well as a civil case that no one can plead the unconstitutionality of a law except the person affected thereby." Then followed the ruling which is of such great significance to physicians. "By Section 1145 of the Penal Law, physicians are excepted from the provisions of this act under circumstances therein mentioned. This section reads 'An article or instrument used or applied by physicians lawfully practicing, or by their direction or prescription, for the cure or prevention of disease, is not an article of indecent or immoral nature or use, within this article. The supplying of such article by such physicians or by their direction or prescription, is not an offense under this article.'...This article...is broad enough to protect the physician who in

good faith gives such help or advice to a married person to cure or prevent disease." The definition given by the Court of "disease" is taken from Webster's International Dictionary and is as broad and comprehensive as it can possibly be.

Basing her activity on this important decision, Mrs. Sanger at once set about to secure legislation to make it legal for a physician to employ contraceptive methods in urgent cases. Her procedure, as her article in this issue shows, is most interesting. Securing a case suffering from disease which endangered the patient's life and rendered her unfit for motherhood, Mrs. Sanger made a tour of clinics and physicians' offices and in every case those appealed to refused to associate themselves with the case on the ground that they could not violate Section 1142, thus bearing out Mrs. Sanger's contention that the law is inadequate and should be immediately remedied, if the public good is to be safeguarded. It is her purpose to bring about a law explicitly permitting a physician to give contraceptive instruction in urgent cases, or to allow responsible individuals, (she is a graduate nurse herself) to disseminate such information. Failing in this, she will feel herself on secure ground in charging the Court decision in her case to be unfair and unjust, in that it is not true that the individual is protected by the exceptions under the law, as the Court held and under which contention she was held to be engaged in unlawful and unnecessary practice. Mrs. Sanger's efforts should have the approval of every intelligent physician. She is not a radical, working for radical and Utopian legislation. Her activities are utterly unselfish in their motives, her object being the wellbeing of the community. It is a commonplace which every physician will concede, that the lack of adequate knowledge of birth control is responsible for much of the morbidity and mortality of expectant mothers, or the bringing into the world of children who are only an added burden to society. Birth prevention is universally practiced, but it is practiced by ignorant women in such a way as to endanger their lives and their health. It is Mrs. Sanger's object to replace ignorant prevention by intelligent control, as has so often been pointed out in these columns. No one who

is informed of the situation can deny that there is a great need of such an alteration in our laws as to bring this change about. The race will not be endangered by it. Rather will it be conserved. Mrs. Sanger has the approval of all conscientious citizens in her efforts.

A Food Lesson from the French.—

During the war, economy in food made remarkable strides under the direction of Mr. Hoover. We had actually reached some degree of intelligence in the matter of food conservation. Have we relapsed into our old ways? The question is raised by a French noblewoman, who came to this country recently. She finds our food so badly selected, so badly cooked and so carelessly served that there is "enough waste left on the plates of the American people to feed the whole French nation."

In this connection she brings a bit of heresy which may not be such a heresy after all. In France the housewife buys only enough for a single day; our teaching is that quantity buying saves money. The French method admits of greater variety. The shrewd French woman buys just enough. She prepares it tastily and by clever balancing satisfies all phases of the inner man. There is no surplus. The opportunity for stuffing is absent. In this country, on the other hand, we frequently find ourselves eating more than we want because of the bounty heaped before us.

There is another virtue in this "enough-for-a-day" heresy. When prices are so abnormally high, the fluctuations are correspondingly large. Now and then the prices react sharply. Most of us, warned by the profiteers against a shortage have stocked up and are thus unable to take advantage of the temporary slump. By the clever use of scares the food barons adroitly manipulate public psychology so as to get the people actually to help them "bull" the market. This is made possible by the average housewife's hoarding instinct in the face of shortage. If more of us would buy just enough for each day we could prevent some of this manipulation and we could choose those items of food from day to day which were cheap as well as desirable and attractive.



CONSIDER THE LILIES.

BY

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In these lovely days of the spring time and early summer, when without any hurry or confusion all the fulfilments of Nature come round, my mind turns irresistibly to the contact between Nature and man. How he misses all her sweet delays and gradual developments, and ever has to retrace his steps in search of something lost or broken. Sometimes I am inclined to think that really *lazy people* come nearer finding out the secret of life than do these air-balloons and steam engines in human form who are considered the salt of the earth. It is easier to kindle a fire than to extinguish one in full blaze, or even to bring it within due bounds and, therefore, I should like to take up the cause of laziness and show that it has some advantages.

In its extreme form, laziness is undoubtedly an evil, but rather chronic than acute. And are we not more likely to arrive at truth by sifting out the good there is in error and trying to discover in what particular distortion of truth it originated than by merely advocating those excellent maxims and undeniable decencies of life that no one thinks of disputing? Let not those

who suppose themselves wiser and more above temptation than common mortals, stay upon the cold, pure mountain peaks of abstract assertion, shrinking from the actual contact with evil as if its very touch defiled. I would give little for such purity.

It is a safe assertion—albeit a trifle startling—that the individual who gives himself with undue and exaggerated devotion to his work is guilty of folly and error, both in one. It is very easy when one is in a kind of work that is in itself of a nature to enlist enthusiasm to become so magnetized in its direction that to leave off is difficult. The law of motion carries one on almost automatically. Both the painter and the writer know this well. It may sometimes be hard to begin, but it is still harder to stop. Its fascination becomes a *maélstrom*, and the first one knows he is caught in its fatal currents. The danger is the more insidious because what is really a fault and a weakness assumes the aspect of a virtue and of strength. If a man thus gets sixteen hours of labor out of himself, he has a consciousness of being twice as worthy as his neighbor who works eight hours. The truth is just the other way. The man who gives a reasonable and rational portion of time to his duties and keeps his energies up to their best possibilities and his nerves and his temper under control, is worth infinitely more than he

who tunes life up to high C, concert pitch, and insists that every note shall sound on this scale.

One of the vices of women—I use the term “vice” advisedly—is this tendency to overdo in any work that enlists their enthusiasm. They never know when to stop. They do not discuss that delicate but most important line that divides the attainable from the unattainable. The type of woman who is given to thus throw her whole interest into an achievement is inevitably the woman of nerves and susceptibilities. She will live two or three kinds of life at one and the same time, and live a dozen weeks in one day. The nervous vitality that should last her a week she will expend recklessly in an hour. She is always crowding in the fuel and turning on the pressure. And when the inevitable result comes that she is exhausted and feels every nerve on edge, she has the resort of regarding herself as unappreciated and misunderstood that would rival Mrs. Gummidge herself.

This is often the case with a woman who is a most devoted, most exemplary wife and mother, and mistress of a house. She is indeed fatally and disastrously exemplary. Every known and unknown duty of woman is fulfilled. Her house is a model of neatness, order and regularity; her children are clothed, fed, trained and taught after the most improved models of advanced ideas. The work of her hands is simply despairingly perfect. As a consequence, being not superhuman after all, she becomes nervous and sensitive to a fault, and generally uncomfortable to live with, and her family may well sigh for a little wholesome neglect.

A perfection of domestic arrangements is very good, but sunshine and sweetness and joy in the general household life are far more. In any kind of artistic work—

as of painting, modeling or writing—the temptation comes in a yet more insidious form. The worker falls into the error of making an idol of his work. Consciously or not, he sets it up before him and worships it, and to accomplish his purpose in it he sacrifices whatever comes in his pathway. But just here is another illustration of the law of the prophets, “Thou shalt have none other gods before me.” Does this injunction of the decalogue apply not only to objects personified as deities, but to those objects of achievement we hold before ourselves?

The life is more than meat. The personal life of the individual lived out each day simply, sweetly, sincerely—lived according to its best possibilities and highest lights, is far more important than any work of its hands. There has been a sort of carnival for the glorification of work. If Carlyle did not largely inaugurate and incite it, he certainly fostered it. He left some worthy work, too; work that is an inheritance of value, but he only achieved its large proportions by degrading himself into a state of irritated nerves and fretful temper, and has left a memory which, if it is to be pitied, is also to be a little despised and more than a little censured.

There is probably no work that so tends to an exhausted nervous state as the creative type of writing. The class of writing that is done from a basis of material observations and facts is hard, and often it is great drudgery; but it has in it no power to exhaust the worker nervously as does that class of work which comes out of one's head, so to speak, that whose springs are insight into human nature and analysis of mental states. The worker in this line cannot too carefully guard his tendency to overdo. Dr. Hale says three hours a day

of actual creative writing is enough for anyone, and doubtless he is right. Quality tells more than quantity. And the life tells more than the work. To do any work well one must live so as to command the situation. He must keep himself up to the point of exhilaration. Thus only shall he be enabled to give of his best, and prove himself worthy to serve in the higher ranks of life.

Starting with the belief that an absolutely good God has created human nature and endowed it with all the faculties necessary to attain that end he designed for it, we cannot afford to ignore a single trait, even the least tendency that appears in it. We are now almost wholly beings of Time. We take this life bodily and only so much soul as suffices to animate our frames, whereas, our souls are immortal pilgrims journeying thru eternity and putting on different conditions of being, as a traveler changes his clothes to suit the climate he is passing thru. The end of our existence is one and not many; our living existence only is various; and we become involved among these as an inexperienced speaker is confused by the tropes and figures of his rhetoric until he forgets what they were intended to explain and thus loses the thread of his discourse.

Those who live in cities where every blade of grass that so forgets itself as to peep up thru the pavement is immediately ground down beneath some ruthless tread; where all the trees are overshadowed and dwarfed by high brick walls; and even the sky is supposed to be of a French-grey color, because seen only thru the ever-rising smoke—these people are to be profoundly pitied if they think life is a grinding mill and human beings only machines to work it, a mere grist in its hopper. However unreasonable it may seem, I cannot

help hoping that cities are only a disease that has seized the nations, becoming almost chronic indeed, but still to be cured in the course of time. Like the diseases of children, it will have "cleared the system" and "settled the constitution," and then it will be laid by on the shelf of eternity and labeled as a wornout instrument.

But come to the country in the spring-time; watch the slyly-opening flowers; the sweet relaying of the birds; the gradual awakening and tuneful stretching of all nature, as she opens her eyes with a smile on her face because she has slept as long as she wished. Listen to the wandering breeze that lingers at every flower to imbibe its fragrance, and at every bird and insect to absorb the essence of its song, until it seems to have woven all the delights of earth into one strain of æolian music, bearing you to heaven.

This is the place for those who never had a moment to themselves; who have always been run down, breathless, by the headlong career of circumstances, until they look upon annihilation as their only hope of rest. They feel that the current saying, "I have no time," should be changed into "I have no eternity." A pervading and weary sense of failure has settled upon their lives; and with a sigh, which is the only thing they can bring from the depths of their being, they try to voice the vague yearnings of their shriveled souls:

"Why are we weighed upon with heaviness,
And utterly consumed with sharp distress,
While all things else have rest from weariness?

All things have rest, why should we toil
alone,

We only toil, who are the first of things
And make perpetual moan

Still from one sorrow to another thrown?
Nor ever fold our wings

And cease from wonderings:
 Nor steep our brows in slumber's holy balm,
 Nor harken what the inner spirit sings
 'There is no joy but calm!'
 Why should we only toil, the roof and
 crown of things?"

Surely they say:

".....not for this
 Was common clay taken from common
 earth,
 Moulded by God and tempted with the tears
 Of angels, to the perfect shape of man!"

Indeed, I think we defeat even the narrow ends we aim at by this hurry and excitement—then how much more the spiritual result for which our souls were really planned! Much that is called *gaining* time is really so much loss. And by-and-by, none the less surely because we have put it off so long, we shall have to go back over the weary road and find it our starting place, the severed thread of our true life. In our minds we have to deal with the most delicate of nature's instruments, and the disorder of one cord seems to jar the whole. A broken law does not cease its action, but becomes a harsh task-master and we its slaves instead of its free agents. This is the direst of bondage.

With a mortal body round our souls we cannot hope to realize fully what eternity is; neither is it more necessary than possible to do so. But can we not let this divine Fact, which we acknowledge, shine in upon our souls with a holy light, quickening our slow thoughts and dim perceptions like a sun? We need not try to explain the *cause* of the influence it has upon us, for causes are hidden with God; but we may receive its full benefit.

When our minds are at rest, in this best sense, we find in their depths the sacred intuitions of God, which will come to us

continually, as we are fit to receive them.
 And so let us

"Consider the lilies of the field,
 how they grow;
 They toil not, neither do they spin: And
 yet I say unto you,
 That even Solomon in all his glory was not
 arrayed like one of these!"

SOME PHASES OF EDEMA.

BY

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Edema, which occurs when the outflow of serum from the capillaries into the interstices of the tissues exceeds the intake by the lymphatics, is none the less interesting because the conditions which bring it about are not fully understood. The swelling has been attributed to one or more of the following causes: infiltrative pressure; increase of permeability of the vessels due to mechanical obstruction of outflow, malnutrition or poisoning of the tissues and endothelial cells; vital secretory activity of the endothelial cells; trophic, motor and vasomotor disturbances; alterations of metabolism; inflammation from injury damaging the vessel walls and surrounding tissues; osmotic variations; inability of the kidneys, as in nephritis, to excrete water and salt; the possible injury to the endothelium produced by morphine and the juice of certain fruits; and variations in the surface tension of the blood. One observer has recently ascribed angioneurotic edema, purpura, petechial hemorrhages, and so-called idiopathic capillary hemorrhages to

a change from flattened tube-forming structures to mitotic globular cells for the purpose of defending the economy against chemical, bacterial, animal or endogenous poisons. In this way the small blood vessels are supposed to be disintegrated, permitting the transudation of serum to produce edema, diapedesis to produce purpura, and a direct outflow from the ends of the vessels to produce hemorrhage. Another observer, holding to the view that in chronic parenchymatous nephritis edema is caused by hydremia from loss of albumin, and by a decrease of osmotic pressure in the blood vessels, advises large amounts of properly selected protein, a minimum of carbohydrates and the exclusion of fats.

To enter into a technical discussion of these causes would transgress the limits of this paper, the purpose of which is to call attention to certain types of edema and to report several cases which may throw some light on one of the ways by which the swelling may be produced. For the sake of brevity, authorities and the sources of information as found in current medical literature will be omitted.

Malignant Edema.—This has been attributed to the *vibrio septique* (*bacillus septicus*, or *bacillus edematis*), which is one of the causes of gas gangrene.

Reflex Acute Edema of the Lungs.—Among the causes for this serious and sometimes fatal condition may be mentioned thoracentesis; iced water; irritation of the abdominal sympathetic in typhoid fever, irritation of the terminal sensory uterine nerves; and puncture in ascites. Since the lungs fill up rapidly, the means of relief should be at hand and energetically employed.

Persistent Hereditary Edema of the Legs (Milroy's Disease).—The characteristic features are: involvement of the legs only; no traceable cause; strong family predisposition; absence of pain (except in acute

attacks) in the pale, swollen legs; absence of constitutional symptoms; sharpness of limitation of upper level of the edema; incidence in both sexes; and permanence of the condition.

Edema from Neoarsphenamin.—One case is reported in which a long course of the drug caused a rash, and edema of the eyelids resembling that of chronic nephritis; while in another case edema of the legs, arms and face was extreme. The belief is expressed that such cases occur oftener than is suspected.

Paroxysmal Edema.—Salt retention is said to be an important factor, and the value of reduced salt diet and free catharsis has been attested.

Traumatic Edema.—Three cases occurring in about one thousand patients in the orthopedic department of a military hospital are reported. The X-ray showed marked atrophy of the bones, but no signs of fractures. In one case eighteen injections of fibrolysin were ineffectual.

Angioneurotic Edema.—It is well known that this interesting form of edema, which may be regarded as a symptom, is often produced by certain articles of food, such as ham, white beans, fish, veal and strawberries. Another view is that it is characterized by an abnormally exaggerated susceptibility of the nerves concerned in the secretion and circulation of lymph. The hyperexcitability is constitutional, and is the result of dysendocrynia (defective functioning of the endocrine glands) with thyroid insufficiency predominating; while it is rendered manifest by influences of various kinds, some of which behave like antigens and induce anaphylaxis.

Edema with Dysentery.—Attention has been directed to cases of edema preceded by dysentery or occurring during convalescence from the disease. The swelling may amount to anasarca. There may be no nephritic complications. In a group of five cases there were ascites and effusion into the joints, or edema of the legs, with polyuria, large amounts of chlorides in the urine, and a low salt content of the blood. A number of cases by older writers have been reported when the system has been drained of fluids, albumin, and salts by dysentery. The edema resembles at times that of chronic nephritis. Withdrawal of

salt from the diet and the use of theobromin was curative in two cases of chloride retention.

Hunger, or Famine Edema.—The term has been applied to a number of cases of edema occurring during the late war in underfed soldiers and prisoners. The symptoms have been numerous and varied, among which are anemia, slow or rapid pulse, cardiac weakness, dyspnea, pallor or yellowness of the skin, gastric and intestinal disorders, dimness of vision, abolishment of sexual impulses, phlegmons, mental depression, pain in the legs, and polyuria or oliguria. The condition would at times resemble scurvy, beriberi, or Bright's disease. Changes in the blood and urine were not uncommon. The swelling lasted from one week to several months, and would occasionally recur. In one group of one hundred and ten cases eight died. General hygienic measures, with especial attention to a properly balanced dietary, were usually curative.

Under this heading can be included those cases of edema due to the deprivation of fats and vitamins. The following experiments are reported. General edema occurred in one of three monkeys fed on all the necessary food constituents except the fat-soluble A fraction. With this diet for one hundred and ninety-eight days, there was no growth, but no signs of ill health. The first monkey was kept on butter fat, the second on olive oil and the third on the original diet. Butter fat maintained the life and health of the animal, but did not restore growth. The animal receiving olive oil died after two hundred and sixty-two days. The third animal had edema two hundred and eighty-nine days, developed diarrhea and died without presenting organic lesions.

Diabetic Edema.—The insidious and deceptive nature of this form of edema should be borne in mind in order that it may be recognized in its early stages, and not be mistaken for natural increase of weight when the patient is losing tissue from underfeeding. Joslin makes this comment on the subject: "The edema occurred most frequently in former years following oatmeal days and the administration of alkalis, but now is common with fasting diabetics of severe type and is apparently related to the large quantity of salt which they ingest with

broth and vegetables." It would appear, then, that all cases of diabetic edema are not due to the effect of sodium bicarbonate, which, according to some observers, has the property of checking the elimination of sodium chloride; nor can the edema always be due to the failure of diseased kidneys to excrete the sodium chloride, since there are a certain number of diabetics who present no signs of renal disorder.

Four cases of moderate edema of both legs have recently come under my observation. All were women, ranging from twenty-five to sixty-two years of age. There were no varicose veins visible, nor evidence of previous disease of these vessels. The heart, kidneys, blood color and blood pressure were normal, but the oldest patient had marked fibroid contraction of both lungs, a bad nervous system and mental involvement. The patient in middle age had been suffering for many years from migraine. The two youngest women were full-blooded and healthy looking, but imprudent in their diet. The urine of one contained a heavy deposit of urates and calcium oxalate crystals. The treatment employed in both of these cases was regulation of the diet and elimination, dilute hydrochloric acid and alkalis. One patient was relieved, while the other, preferring to indulge her appetite rather than practice self-denial, has retained her edema.

In the oldest patient, who had more or less edema of the whole body, with marked puffiness under the lower eyelids, diet and alkalis were not beneficial and the edema is probably due to the burden thrown upon the right side of the heart by the contracted lungs. Nervous influences could also be partly responsible, and may be the starting point of the edema in the middle-aged patient.

Studying the above-mentioned diseases and pathologic states, recalling the unmen-

tioned and more common forms of dropsy, and reverting to the etiology as given, one is struck by the fact that the blood, blood vessels, lymphatics and tissues are more or less involved as proximate factors in the production of dropsy. Behind these factors are the various diseases, or abnormal conditions, which bring them into play. From the number of causes assigned it is evident that in any given case of edema, one or a number of these causes may be at work, but that no one cause can explain all cases of edema.

The point which it is designed to accentuate in this paper is that the condition of the blood should be regarded as perhaps the chief factor in causing edema, and that the rôle of the blood vessels and tissues is secondary. Changes in the vessels may occur, of course, independently of the state of the blood. For instance, the edema of a paralyzed limb is explained by the imperfect trophic, motor and vasomotor functions of a diseased nervous system. The so-called reversal or the blocking of the lymphatics may occur. It seems more reasonable, however, to take the view that, for obvious reasons, primary disorders of the blood vessels and lymphatics would be less frequent than the morbid states of the blood.

To illustrate, let us consider the edema of diabetes. If it be the result, as some authorities maintain, of the retention of sodium chloride in patients taking large doses of sodium bicarbonate, we are left in doubt as to the explanation of the retention, especially if the kidneys are in normal condition. If, as stated by Joslin, the edema may develop when no alkalis are being given and is due to the salt contained in the diet, why is not the salt eliminated in subjects with healthy kidneys? When the renal function is impaired, the cause is patent; otherwise,

must we not look to the blood itself? Could not the sugar or alkalis induce conditions in the vessels that lead to edema?

Martin H. Fischer holds that "in the variable affinity of colloids for water we have an explanation of many of those physiologic phenomena which are characterized by a storage or migration of water." He contended, moreover, that alterations in the permeability of the vessel walls have never been demonstrated experimentally, and that all efforts to produce states of edema thru simple increase of blood pressure have failed. The increased affinity of colloids is supposed to be caused by the fact that various substances—especially acids—capable of greatly increasing the affinity of colloids for water are not removed as they should be, or are produced in abnormal amounts, so that the colloids having little affinity for water are changed into such as have a greater affinity.

In two of the cases reported by the writer the edema was the result of a disorder of metabolism. Whatever be the toxins, whether uric acid, calcium oxalate or other agents, the so-called acid state of the system was the origin of the trouble. According to Fischer only the tissues would be affected, but it is difficult to avoid the conclusion that the toxins in the blood were also acting directly upon the blood vessels and modifying the physicochemical processes concerned in the transudation of serum. The marked effect of Basham's mixture in certain forms of nephritis with scanty urine are due not only to a diuretic action, but also to the relief of the anemia; and it remains to be demonstrated that the edema produced by acid fruits is owing more to the effect of the blood upon the tissues than upon the blood vessels. To summarize, the remote causes of edema are

pathologic conditions outside of the blood and vessels; the proximate causes are in the vessels and tissues; the intermediate causes are in the blood. As the blood is more or less involved in all cases of edema, and as the vessels and tissues functionate satisfactorily, as a rule, when the blood is normal, it is apparent that the intermediate causes of edema should be duly emphasized.

In the management of edema our efforts are often unavailing, for certain cases are beyond control on account of the age of the patient, long-standing disease of the organs and blood vessels, and other irremediable conditions. In many instances, however, the primary morbid condition can be cured or mitigated. When the dropsy itself becomes a burden or a menace to life, the use of saline purgatives, diuretics, sudorifics, atropin, skin puncture and other well-known measures, will frequently remove the urgent symptoms while time is gained for attention to underlying causes. Temporary withdrawal of salt and forced proteid feeding will be serviceable in appropriate cases. The support of a flagging heart is always indicated.

If the views regarding the state of the blood and the blood vessels be valid, it follows that in every case of edema a knowledge of the composition of the blood is a prerequisite of intelligent and successful treatment. The elimination of all foreign bodies or substances, such as indican, sugar, acetone, bile, microbes, injurious drugs and other deleterious agents is a matter of prime importance. Anemia or plethora should be combated, and the chemical balance as regards alkalinity should be maintained.

In recent years the laboratory workers have made valuable contributions to medical science, and in no line of investigation has their work been more significant or helpful

than in hematology. The field of exact diagnosis has been widened and will continue to expand. The secrets of today become the revelations of tomorrow, and further research is likely to prove that some of the hitherto unrecognized or unknown causes of edema are to be found in the blood.

5 East Franklin St.

URETHRAL STRICTURES OF LARGE CALIBRE, A MUCH NEGLECTED FIELD.

BY

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After the dilation plus irrigation fad was instituted, the profession proceeded rapidly to unlearn all that it had learned upon the subject of urethral strictures of large calibre in their direct and remote relations to genito-urinary pathology. Over forty years of experience have convinced the senior author that, while the views of Otis and his school often were misapplied or carried too far, their value, nevertheless, cannot justly be denied. The majority of practitioners nowadays fail to profit by Otis' pioneer work because the "paper" surgeons—who never operate—dominate urethral work. Hardly a day passes but some neglected case of gleet, prostatovesical or vesicular infection, or reflex urinary disturbance incidental to strictures of large calibre, and curable only by the

removal of the obstruction, come under our personal observation.

The necessity of a careful study of strictures of large calibre apparently eludes the mind of the average practitioner. Were such cases thoroly understood, the urologist would be relieved of some of the most embarrassing features of daily practice. It is not pleasant, after one has made a diagnosis of stricture of large calibre and suggested urethrotomy for the purpose of relieving direct or reflex symptoms obviously dependent upon said stricture, to have the patient seek other treatment at the hands of a man who diagnoses stricture by means of an ordinary urethral sound—and perhaps a dirty one at that—and be informed that an operation is entirely unnecessary and undoubtedly was proposed by the specialist for the sake of a fee. Such an experience is by no means uncommon, and such cases go from one surgeon to another, seeking relief which they never get. The imputation of diagnostic inaccuracy is in itself a very disagreeable result of the prevailing ignorance upon this subject, while the effect on the welfare of the patient is most disastrous.

The ultra-conservative views of the honest and capable men among the opponents of the Otis theories and practice—said opponents having been in many instances men of high standing, notably, Dr. H. B. Sands—were responsible for much of the prevailing ignorance. A large number of practitioners accepted without qualification—and with much resulting unwise practice—Dr. Otis' extreme views of the acquired pathologic character of all large-calibred contractions in the pendulous urethra. Others, following such eminent men as Sands and Weir, held with equal vehemence that all of the strictures of large calibre

described by Otis were normal contractions, to be found in every urethra.

Both of the warring factions forgot the main point at issue when a case of apparent urethral stricture calibre confronted them. *The question is any case of gleet, prostatic or vesical irritation, urethral or testicular neuralgia, associated with contractions in the urethral canal, is not whether the contractions were primarily normal or have been acquired thru chronic inflammation. The question to be decided simply is: What is the relation of these coarctations to the indubitable pathologic conditions and symptomatic manifestations presented by the particular case in hand?* We believe that there is no point in urology more important than this.

We meet with many cases in which intractable "gleets" have been treated for months and months—even years—with no consideration of their possible relation to stricture, merely because the surgeon in attendance repeatedly has succeeded in passing a sound of quite large calibre into the bladder. Careful exploration, nevertheless, determines in many such cases, tender, perhaps "granular," coarctations. Division, or absorption by dilation, of strictures of large calibre usually results in a cure of the discharge, the relation between cause and effect being clearly demonstrable. Narrowings due to soft infiltration disappear under dilation, but where the tissues are distinctly fibrous, they do not yield to pressure and consequently a gleet may persist indefinitely unless operation is resorted to. We have met with such patients who have been treated for years for supposed inflammation of the prostate, irritability of the vesical neck, cystitis, or some other of the multitudinous effects which may result from direct or reflex irritation from urethral

stricture. In cases of this kind the more the prostate and bladder are treated, the worse the case becomes, and the patient never can be put on the road to a cure until the point of contracture has been divided.

That the point of contracture often consists only of primarily normal inelasticity or indistensibility at some point in the canal is freely admitted, but once urethritis occurs these points of inelasticity and indistensibility nevertheless may cause irritation and imperfect drainage of the urethra to become chronic. Such points are readily detected by the alternate passage of a sound and bulbous bougie; the sound passes by the obstruction without any difficulty, while the bulb of relatively much smaller size requires some force for its passage. The coarctation yields readily to the pressure of the sound, which uniformly distends the urethra anterior to it and possibly has more or less of a sedative effect upon the mucous membrane, yet the bulb finds the stricture in precisely the same condition as is the contraction which presents itself to the outflow of urine during micturition. *Outflowing urine produces friction—with removal of the forming epithelial cells and abrasion of the mucosa—just as surely as does the exploring bulb in passing over the contracted point.* This point of inelasticity may be congenital or acquired; the result is the same. If it is acquired, its pathologic character is beyond dispute, but in many cases we know of no way to prove that the coarctation is acquired rather than congenital. If, however, we explore a patient who never has had urethral disease or injury, and we find these coarctations, the inference is obvious if the history be accurate.

Many of the so-called strictures of large calibre probably are normal and of congenital origin; but the relation of such stric-

tures of large calibre to the healthy urethra is very different from that which they bear to a urethra in a condition of disease. The inflamed urethra necessarily is more or less narrowed in its lumen. Micturition goes on the same as in health, with the exception, perhaps, that in many instances the frequency of the acts of micturition is increased; the hydrostatic pressure of the urine being the same and the calibre of the urethra diminished, it is obvious that increased friction occurs at given points of inelasticity or contraction. This friction produces a condition of unrest, which is inimical to proper repair and it is such points that perpetuate a gleety discharge. Such points also very often form the *fons origo et mali* of vesical and prostatic irritation, or of neuralgia in various situations, especially in the vicinity of the genital organs. To debate the question of the normal or acquired origin of such points of friction or irritation is, to put it mildly, very absurd.

At this juncture we will reiterate that the question at issue in cases such as these under consideration simply is: What is the possible or probable relation of the tender and contracted point in the urethra to the symptoms—whether those symptoms be reflex or direct? *We hold the opinion that no case of urethral disease of long-standing and obstinate character; no case of urethralgia or neuralgia of the testicle; no case of vesical or prostatic disturbance has been done full justice until all points of possible local and reflex irritation in the form of strictures of large calibre in the urethra have been subtracted from the pathologic sum total, either by dilation, if the conditions be favorable, or by internal urethrotomy, which is necessary in a considerable number of cases.* In our opinion, when

internal urethrotomy is properly done, the result is not only satisfactory, but likely to be permanent. We will suppose, however, for the sake of argument that the result is not permanent, but that some years later coarctations still may be detected by careful exploration with the exploratory bulbs: If the immediate result of the operation is a cure of the conditions for which the patient consults us, the possible return of slight coarctations later in life is of little consequence as bearing upon the success of the operation. Once the mucosa becomes healthy, congenital points of coarctation or inelasticity bear the same relation to the urethra that they did before the patient ever contracted a venereal disease. If, therefore, the operation is immediately successful, the result will be permanent, providing the patient does not again contract a gonorrhea. We believe that all cases of stricture of large calibre should be regarded as primarily congenital, inasmuch as it is probably that, merely by localizing infection and inflammation, points of normal inelasticity or contraction are the foundation of the majority of cases of stricture, whether of large or small calibre.

We wish to lay especial emphasis on the point that *an exploration of the urethra by means of the ordinary sound is so inaccurate and unreliable as to be practically worthless for diagnostic purposes.*

The diagnosis of stricture of the urethra as a possible or probable cause for the perpetuation of gleet, prostatic and vesical irritation, is practically worthless if based upon exploration with the sound. The fact that the sound which has been used is of large size, does not negative the truth of this proposition. The associated pathology can be diagnosed only by the exploring bulb and urethroscopy.

The foregoing really should be supererogation, but daily experience proves that the majority of practitioners never have learned the lesson therein contained.

The most vital point in relation to stricture of large calibre is the frequency with which it is overlooked at the bulbomembranous junction. Sounds make the symptoms worse, and always fail to cure the "string" variety of coarctation situated here. Irritable bladder, continued prostatic infection, neuralgia of the testes and cords, perineal pain, backache, vesicular symptoms—perhaps actual infection of the vesicles—"neurasthenia," vesical atony, chronic urethral discharge, any and all of these disagreeable conditions may result from a large-calibred, deep stricture. If the symptoms yield to dilation, well and good—but they rarely do. We venture the opinion that there are thousands of cases that at this writing are being treated for vesical and prostatic disease in which no permanent relief ever can be attained save by perineal urethrotomy and division of the thin, fibrous coarctations. We repeatedly have demonstrated cases in which, after the urethra was opened perineally, a 50 F. dilator could be passed into the bladder, yet the finger could not be passed without danger of rupturing the urethra, the firm grip of the fibrous "band" around the finger being demonstrable to any Doubting Thomas who might choose to explore. Thoro division of such bands or string-like coarctations is the only hope of permanent cure of such conditions. It is a frequent experience that the so-called hyperesthetic urethra, exploration of which prior to operation is very painful and productive of more or less shock, with or without "urethral fever," subsequently will admit large-sized sounds with perfect ease and comfort.

A very instructive class of cases with which we frequently meet is that in which the patient's bladder has been assiduously "scoped" and treated for vesical pathology that is a mere mental impression on the part of the urologist, the entire trouble being a large-calibred stricture with associated pathology at the bulbomembranous junction.

In the presence of a large-calibred, deep stricture, the urethra posterior to it never is clean. What wonder that prostatic, vesical vesicular and urethral symptoms continue until the source of obstruction and irritation is removed.

The senior author recalls at this juncture a case referred by Dr. Wm. E. Morgan and the late Dr. Joseph Zeisler, in which "prostatic and vesical inflammation" of 15 years' standing was cured by internal urethrotomy of a stricture of very large calibre. Most of the prostatovesical pathology was due to ill-advised treatment by some of the best men in the profession.

We have operated from time to time upon cases of chronic cystitis, prostatic abscess and urinary fistula, in which the serious complications indubitably were due to deep stricture, yet a sound of fairly good size could, by careful manipulation, be passed into the bladder. Dilations and irrigations in such cases are a failure; operation, however, is followed by most satisfactory results.

25 E. Washington St.

Castor Oil Palatable.—To make castor oil palatable, mix an ounce of castor oil with an ounce of glycerin and add two drops of the oil of cinnamon. Children take this as a luxury and ask for more.—*Med. Summary.*

THE PLAGUE AND TYPHUS: THE ROLE OF FLEAS AND OTHER VERMIN IN SPREADING THESE INFECTIONS.

BY

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Washington, D. C.

It is a matter of common knowledge (un-applied and, therefore, useless knowledge) that rats consume immense quantities of cereals and other foodstuffs. In the United States these marauders every year destroy grain that is conservatively valued at more than \$40,000,000.

On the score of economy alone, therefore, the government could well afford to grant a liberal subsidy to some Pied Piper of Hamelin, who should lure the prolific and pestilent vermin to destruction. For this waste of food supplies is one factor that enhances the cost of living, concerning which so many indignant patriots wax more or less eloquent and do nothing.

Another count in the indictment is that rats constitute a serious menace to the public health, as well as to the food resources of the nation. These filthy animals are carriers of the bubonic plague, that scourge which is now devastating Asiatic and European countries. As every one knows, the fur of the rat swarms with fleas which are the intermediate hosts of the bubonic infection, as mosquitoes are harborers of the malarial parasite, and transmitters of it to man. In like manner, the bite of an infected flea conveys the bubonic bacillus and inoculates the bitten victim with the disease.

The etiologic rôle of the rat in the propagation of the plague has induced the British Parliament recently to pass a "rats and

mice act," which is calculated to rid the country of the pests. This law authorizes sanitary officers to destroy rats on the premises of the private owner, charging him with the expense. (See *Lancet*, Jan. 17, 1920, p. 167.)

This salutary legislation is none too drastic, and its wise provisions for quarantining against an epidemic of the plague in England might well be adopted as precautionary measures in our own country.

Fortunately, the rat can be easily and safely exterminated. Chemical agents are available which, while deadly to the rodent, are harmless to man and to domestic animals. Barium carbonate, for example, tho innocuous to the human subject, is specifically toxic to the rat. A two-grain dose kills the small quadruped. Squill, too, is fatal to the rat, tho a useful drug for the human biped.

In anticipation of a possible epidemic of the plague in our own country, prudential reasons suggest that the public health forces should be promptly mobilized for national defence against this alien enemy. The black and the brown rats which infest our shores should be destroyed forthwith; and no ship from a foreign port should be allowed to discharge its cargo at an American dock until the commanding officer shall have submitted proof of immunity from bubonic plague and of the absence of rats, on board of his vessel on reaching a quarantine station.

Epidemics which decimate the populations of the eastern hemisphere utterly ignore the Monroe Doctrine; and typhus, now raging in the late war zone, is likely to plant its colonies not only in other parts of America, but on United States territory unless radical measures are instituted in season to

prevent the foreign invader from establishing a base of operations on this continent.

Typhus of epidemic character has for several years prevailed in Central Europe, extending from its point of origin in Serbia thruout Russia, Bulgaria and Roumania into Italy in 1918, and subsequently into France. Westward the course of the exanthem takes its way and it now threatens to disturb the hygienic equilibrium of North America. What can be done to avert the impending calamity?

Vandremer bluntly says that preventive measures against typhus may be summed up in a single word, "delousing." (*Paris Medical*, Feb. 28, 1920, p. 177.) But much is involved in that term. It implies the adoption and strict enforcement of quarantine regulations. It means disinfection of the person and the clothing of every steamship passenger. It signifies that a cordon of sanitation must be drawn around every customhouse and immigrant station in the land. The Federal authorities alone are competent to deal with such a situation.

But should the plague gain a foothold in America in spite of all available means of prophylaxis, the resources of the medical profession would be taxed to their full capacity to meet the emergency. As to treatment in this infection, nothing gives promise of better results than the method devised and successfully practiced by Dr. Daniélopou of Bucharest. This treatment consists essentially in the injection of hypotonic salt solutions intravenously at frequent intervals. This procedure is credited with ninety-four per cent. of recoveries in the severest forms of the disease; whereas, under other medication, the mortality rate ranges from 97 to 100 per cent. for all cases.

HOW MUCH IS "ENOUGH SLEEP" AND HOW CAN WE GET IT?

BY

EDWIN F. BOWERS, M. D.,
New York City.

Most of us think of the up-and-doing chap as an aggressive, fighting-jawed individual who arises early enough every morning to wake the robins up for breakfast. Always we think of a hero as a lithe young fellow who gets along on a minimum amount of sleep.

All our asinine old proverbs pin figurative ribbons of honor upon the poor dolt who "short changes" himself on sleep to win the fatuous approbation of whomever happens to find out how saving he is with this commodity.

We have heard about Napoleon, Frederick the Great, Frederick Shiller, Charles XII, the Duke of Wellington and John Wesley so often that we have come to believe that the greater and the more intelligent a man is the less sleep he requires.

We have accepted that toothless, doddering old precept:

"Nature requires five,
Custom takes seven,
Laziness takes nine,
And wickedness eleven,"

as Gospel truth.

We figured that Virgil and Horace, Franklin and Priestley, Buffon and Parkhurst, and scores of other notables in the world of art, literature and science did their best work on a very moderate amount of sleep. Therefore, why should anyone need more?

We know that Sir Thomas Moore got up at four every morning and was so delighted with the results of his practice that in his famous book, "Utopia," he represented all the poor inhabitants of that be-

nighted land as getting up and attending lectures before sunrise. Think of it!

And haven't we had Mr. Edison and his "four hours' sleep out of twenty-four" flaunted in our faces for the past thirty years?

Edison keeps a couch in his workroom and sleeps when he is sleepy—from which I strongly suspect that if all the little dozings and catnaps were added together, it would be found that Mr. Edison takes considerably more than four hours out of each twenty-four for sleeping purposes.

Dr. Richard C. Cabot, Chief of the Medical Staff, Massachusetts General Hospital, Boston, says:

"To get the sleep one needs (which means all that one can possibly soak into one's system within 24 hours) often takes courage—the courage to refuse invitations, to invite ridicule, to seem odd and 'Puritanic.'"

"I believe that more minor illnesses are due to lack of sleep than to any other recognizable factor. A person catches cold, gets lumbago, is constipated or headache-ridden because his vitality is below par, his physical expenditure beyond his physical income. He is chronically edging toward a breakdown."

There is one thing, however, in connection with the subject of sleep to which we physicians are giving more attention lately than ever before. This has to do with the thing that makes sound sleep possible—a comfortable, noiseless bed that invites complete relaxation and repose—and always by preference a bed that one doesn't have to share with another sleeper.

No physician would permit a patient, even tho suffering from some minor illness, to be disturbed by the restless tossing and turning, hopping in and out of bed of a bed partner.

And the time is rapidly approaching when every family, whose financial circumstances permit it, will provide a separate bed for every individual in the family—from baby to grandmother. Then everybody will get more sleep and a better quality of sleep than human beings ever got before in the history of the race.

For the physiologic fact about sleep is that we need all we can get, and should take all we can use.

We need have no fear of getting too much, for when we have enough we'll wake up, and we'll stay awake.

I am speaking now of healthy individuals, in hygienic surroundings. Those who are poisoned by bad air, alcohol, tobacco, the wrong kind of food or too much of the right kind of food, or by any other of the things that increase the muddiness of this "muddy vesture of decay," will need more sleep than they take. And, even then, they won't have enough.

For it isn't sleep they need, but a change of habit.

So the answer to the question "How much sleep should I take?" is "all we can get." Let's follow our instinct. When the oxygen balance in the tissues is restored, when the fatigue poisons are eliminated or burnt up by the oxygen, and when the wornout cells are replaced, we'll awake, rested and refreshed. In fact, we wouldn't be able to sleep any more, just then, even if we wanted to. Exactly how long this will take, there's only one person on earth can tell, and that's the individual that lives under our own hat.

Bed-sores are particularly liable to occur in certain nervous affections, myelitis, compression paraplegia, hemiplegia, etc.—*Urologic and Cutaneous Review.*

P. U. O.

BY

J. G. JISR, M. D.,

Cairo, Egypt.

I think that it is hardly worth while my mentioning that the above are initials that stand for the words *Pyrexia of Undetermined Origin*, a term that is very familiar among physicians in the Anglo-Egyptian Sudan and doubtless other parts of the tropics as well.

A physician who has not had the chance of having practiced in the tropics, will surely, when having a look at one of the hospital registers there, be struck at the frequency with which the term P. U. O. appears as there seldom passes a page where, this, or otherwise the words *Simple fever* do not appear at least once.

He will, at first sight, perhaps, attribute this, either to incompetence in diagnosis or what may be worse still to negligence on the part of the physicians concerned to make a correct one.

The following is a résumé of the statistics collected, during several years, of practice in the Sudan on this subject.

P. U. O. cases are naturally divided into two categories:

A. *Benign.*

B. *Malignant.*

A. *Benign Types* are subdivided and that is according to their duration into two classes.

(1) Cases of transient fever lasting 3-7 days, having no prodromata, and often reaching maximum on the evening of the 1st day, the temperature not infrequently being as high as 105° F. The patients complain of headache, backache and are usually constipated, the tongue is coated and vomiting is not uncommon.

The fever falls down to normal by crisis, on the 4th to the 7th day.

(2) Cases of continued fever running from a few weeks in some to several months in other cases. The fever begins insidiously and hardly if ever exceeds 101.5° F.

The patients usually complain of no subjective symptoms but the pyrexia which seldom stands in the way of their pursuing their duties.

The fever usually terminates by lysis.

The causal factor of the fever of this type I believe (the conclusion being built on totally clinical bases) to be due to a streptococcemia of intestinal origin.

The intoxication is acute and of short duration in the former while it persists for several months in the latter and that is either because of the continual production of the causal factor or otherwise owing to the incompetence of the phagocytes to deal with and eliminate the germs and giving rise to the fever rapidly.

B. *Malignant Types* are also naturally subdivided into two classes.

(1) Cases of continued fever lasting 17-20 days. These are usually ushered by headache, malaise, etc., for 2-3 days, the fever coming on later with slight morning remissions, ranging between 102° and 104° F., attacking by preference foreigners between the ages of 20-40 years and with a mortality of at least 75%.

These cases almost always occur during the summer months.

In the mild forms the temperature resumes normal by lysis while in the severer ones the patient passes into coma with stertorous breathing 3-4 days before death, which usually occurs on the 14th to the 17th day of the disease.

(2) Cases of prolonged severe fever which do not respond to quinine no matter how administered (this applies to all forms of P. U. O. as well) presenting no subjective or objective symptoms for diagnosis and ultimately ending in death.

Accurate bacteriologic examination was conducted, whenever possible, blood smears proved negative for malaria, liver and spleen puncture films, negative for kala azar, serum and fecal culture tests, negative for malta fever, the typhoid group and the *B. Coli* infection.

Tuberculosis is altogether out of the question there being no cough or chest signs for the pulmonary and symptoms for other varieties of tuberculosis being altogether absent.

As an example of this I venture to mention the following:

A. A., a Sudanese slave about 20 years old and a native of Gadarif, where he passed all his life leaving the place only shortly before the appearance of the symptoms, with his master, for Gellabat, on the

Abyssinian frontier, on business. Soon after his arrival he had the fever off and on as he described, for two months.

Sent back to Gadarif for treatment he was seen and admitted to the hospital on March 25, 1918, with a temperature of 105° F. Blood smears were taken right away and on microscopic examination proved to be negative for malaria; nevertheless quinine was administered per os, intramuscularly and on one occasion intravenously, in heroic doses, but to no effect.

His condition after this long spell of continuous fever, showing no abatement the granting morning respites was as follows:

(1) Physique, originally well built, now greatly emaciated and feeble.

(2) Digestive system, tongue moist, and clean, appetite and digestion good, bowels regular, excepting once a slight diarrhea for three days. Abdomen normal, spleen not palpable, liver dullness less than one finger breadth beyond the costal arch.

(3) Genito-urinary system normal; examination of urine negative.

(4) Nervous system normal up to the last 10 days of his stay in the hospital, during which time he became delirious.

(5) Respiratory system, no cough and no physical signs in the chest.

Circulatory system, heart normal, pulse regular, never above 120 per minute.

Blood examination revealed the following:

Hemoglobin	55%
Erythrocytes .....2, 246, 875 per c. cm.	
Leucocytes .....3, 900 per c. cm.	
Ratio	1:562
Lymphocytes	70%
Polymorphus	15%
Large Mononuclears	12%
Eosinophiles	0%
Transitionals	3%

Films taken from blister fluid and liver puncture examined locally showed bodies that were suspected for the Leishman-Donovan's. This, however, was not confirmed when later examined by the Wellcome Research Laboratories of Khartoum.

Serum reactions for the typhoid group and malta fever, etc., were negative.

Blood was taken on two occasions in a 10 c. c. syringe and 100 c. c. of N. S. S. injected intravenously, but to no result whatever.

The patient was kept in the hospital for

nearly three weeks after which time he was discharged on account of the insistence of his masters.

He died 8 days later, *i. e.*, nearly three months after the appearance of the fever.

No post mortem was attempted, as the general feeling in the place was against it and it was not deemed wise to insist on having one as this was liable to jeopardize the medical work in the locality.

This is an example of one of the many cases of P. U. O. that not infrequently occur in the Sudan and I do personally hope that some future investigator may be lucky enough in elucidating the cause of symptoms that has been hitherto described as undetermined not only because of its scientific interest but also because this might help in giving a better chance of treatment for the unfortunate victims of pyrexia of undermined origin.

THE LEGAL RIGHT OF PHYSICIANS TO PRESCRIBE BIRTH CON- TROL MEASURES.

BY

MARGARET SANGER,

New York City.

Few physicians practicing in the State of New York seem to be aware of the fact that they are well within their legal as well as their moral rights in prescribing contraceptives to "cure or prevent disease." This protection to physicians does not stand out in the letter of the law, but it was emphatically construed by the New York State Court of Appeals on January 8, 1918, when it affirmed a judgment of the court of Special Sessions by which I had been sentenced to thirty days' imprisonment.

One cannot go to a court and have one's rights construed regarding a matter covered by the criminal law. One must first proceed to do a given thing, which may or may not be "criminal" under the statutes in order to establish a "case." If prosecu-

tion follows, one's rights may be defined by the court and the law construed. It required my experiment of opening a Birth Control clinic in Brownsville to determine the rights of the physicians under Section 1145 of the Penal Law of New York. Ironically enough, the court held that while I, as a trained nurse who had specialized in gynecology, had *not* the right to impart information concerning contraceptives to anyone, a physician *has the right* to prescribe contraceptives under the circumstances stated above. The court also denied my right, since I am only a nurse and not a physician, to test the constitutionality of the statute.

The right of physicians to make use of preventive means to save women who would suffer an aggravation of disease or who might die if they should become pregnant has been won for the medical practitioners of the State of New York. The decision in question would have been more thoroly and widely called to the attention of the medical profession had we not hoped that by an appeal to the United States Supreme Court to gain even a greater advantage. That tribunal has recently thrown out the case upon the grounds that it had no jurisdiction, and the matter rests exactly where the New York State Court of Appeals left it.

This is a distinct gain for the medical profession and for hundreds of thousands of women who are afflicted with diseases which are complicated or rendered fatal by pregnancy. It is not enough, by any means, for it does not meet the needs of the great mass of healthy women who, in order to preserve their health, their marital happiness, their economic welfare and their spiritual equilibrium, must very definitely limit their families.

Physicians are, as a rule, too absorbedly busy to keep up on all the incidental matters affecting their profession, but it hardly seems possible that such a decision as that of the Court of Appeals should have been so generally overlooked. Yet, an investigation of the hospitals of New York City by a committee created by the New York Women's Publishing Company which publishes *The Birth Control Review*, revealed the fact that no hospital in the Borough of Manhattan would sanction the imparting of Birth Control instruction even to women who were unmistakably suffering from diseases which would make childbearing criminal, if not fatal, both to the mother and her offspring.

Dr. Mary Halton of New York City, a specialist in the diseases of women, was chairman of the committee, and herself submitted the report. It is of acute interest to every practitioner. The report reads:

"The Committee visited every hospital in New York City, Manhattan Borough, in which women are treated as patients.

"Eye and ear hospitals, hospitals in which children only are treated and other such special hospitals were not included in the survey.

"In each instance the medical superintendent of the hospital was interviewed and asked to answer for the hospital. In a few instances in which the superintendent was either unwilling to answer or felt that he had not sufficient authority to answer, the president of the medical board was interviewed and gave the answer.

"The following question was asked of each hospital:

"We have come to you to ask for birth control information for some patients if you can give it to them.

"We know that these patients can be

legally aborted if they become pregnant, as they are suffering from advanced disease which would mean death to them if they attempted to give birth to a child.

"But therapeutic abortion in our cases would be insufficient to save life. Our patients are so advanced in kidney disease or in tuberculosis, that merely the incidence of pregnancy would mean a fatal termination of their disease. Can you, therefore, in order to save these women, instruct them in methods of contraception in order that they may live if they continue a normal wife's relation to her husband?

"Each hospital in New York refused to allow the patients to come, and each hospital said that under the present law it could not give such information to any such patients.

"Some superintendents went on to explain that if the hospital acceded to our request, its charter could be revoked and the doctor who gave the information would be subject to arrest.

"All hospitals declared this information could not be given by the hospital either in the clinics or in the hospital itself in any official way. Some kindly superintendents suggested that we might go privately to some of the doctors of the hospital staff, and that on account of the urgency of the cases, they might be willing to break the law in their private offices.

"Many superintendents expressed themselves as willing to sign a petition for a change in the present law, since it can put such hardship on sick women.

"The following hospitals were interviewed:

"Bellevue and allied city hospitals, which include Gouverneur Hospital and Harlem Hospital. Harlem Hospital, Neurological Hospital, French Hospital, German Hos-

pital (now Lennox Hill Hospital), Flower Hospital, Italian Hospital, Jewish Maternity, Knickerbocker Hospital, Lying-In Hospital, Manhattan Maternity Hospital, Misericordia Hospital, Mount Sinai Hospital, New York Hospital, New York Medical College and Hospital for Women, now called Community Hospital, New York Nursery and Child's Hospital, People's Hospital, Post-Graduate Medical School and Hospital, Presbyterian Hospital, The Park Hospital (formerly Red Cross Hospital), Roosevelt Hospital and Vanderbilt Clinic, St. Ann's Maternity Hospital, St. Elizabeth Hospital, St. Luke's Hospital, St. Mark's Hospital, St. Vincent's Hospital, Sloane Hospital for Women, Sydenham Hospital, Women's Hospital."

This situation is unthinkable. More than that, it is hideously cruel. Abortions under such circumstances are recognized as legal; a safe and harmless contraceptive, which would save months of suffering, avoid such an operation and conserve the health of the patient far more effectively than an abortion, is refused because physicians are still under the impression that they can be prosecuted for the mild and safe expedient, while they are authorized to employ the drastic and too often dangerous one.

Yet the Court of Appeals held that Section 1145 of the Penal Code so modifies Section 1142, which brands all information concerning contraceptive as "obscene," as to "protect the physician who in good faith gives such help or advice to a married person to cure or prevent disease." The court then proceeds to read Webster's definition of "disease" into the law, as follows: "Disease," by Webster's International Dictionary, is defined to be "an alteration in the state of the body or some of its organs, interrupting or disturbing the performance

of the vital functions, and causing or threatening pain and sickness, illness and disorder."

Under that decision, which is made exceedingly broad by the inclusion of the definition just quoted, no physician need hesitate to make any use of contraceptives which his judgment may dictate.

AMERICAN GIRL RETURNS AFTER THREE YEARS' SERVICE WITH FRENCH, ITALIANS AND SERBIANS.

BY

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New York City.

An American nurse had to learn the Serbian language in order to teach some pupil nurses how to count in their native tongue.



They were so uneducated and illiterate that they did not know the numerals from one to one hundred, and were utterly unable to take the pulse.

Miss Elsie M. Jessup, graduate of the New York Hospital, has just returned to New York

City after three years continuous service with the American Red Cross in Europe. Her last year's post has been at Monastir, Serbia. Miss Jessup's service as a war nurse dates from September, 1914, when she volunteered for service with the American Ambulance Hospital, at Neuilly, France. In January, 1915, she went to Serbia, where she was attached to the Serbian Red Cross, at the hospital at Zaitchar, on the Bulgarian front, remaining there un-

til October, 1915. Coming home by way of France and Switzerland, she arrived in New York City in January, 1916. In 1917 she went abroad again to volunteer as a war nurse. From April to December she worked with the French Red Cross in the French Military Hospital at Ris-Orangis, going from there to Italian Red Cross duty at the Military Hospital at Florence. In May, 1918, she was transferred to the American Red Cross in Florence, taking charge of the dispensary, children's clinic, and feeding station there. In the mornings, Miss Jessup supervised the clinic and milk station, which fed 500 persons daily, and in the afternoons she did home visiting among the wives and families of the Italian soldiers. Her district work took place in the "Borgo-Stella," which is known as the "Apache District" of Florence, and where foreigners are not always well received, but Miss Jessup found no difficulty in handling the work there. After completing her clinic work in Italy she went again to Serbia, this time in the southern or Macedonian region.

For the last year Miss Jessup has been Chief Nurse of the American Red Cross Hospital at Monastir, Serbia. As the population was largely Mohammedan, with their religious prejudice against men physicians to care for the women patients, the hospital staff was entirely women. Dr. Regina Flood Keyes, of Buffalo, was surgeon in charge, and her cousin, Dr. Mabel Flood, of Elmira, attended to the medical work. The hospital provided ninety beds and was usually filled to capacity.

The American Red Cross returned to Serbia after the armistice and found things in a pitiable condition. Especially the Turkish population of the country was suffering, for no one seemed willing to extend help. The Red Cross Hospital at Monastir, ac-

cepting men, women and children of all races and creeds as patients, did much to relieve the widespread sickness and suffering.

When this Red Cross Hospital was opened in the south of Serbia there was a corps of three nurses. But since July, 1919, the two American physicians and Miss Jessup have been alone. Miss Jessup opened a nurses' training school for the training of young Serbian girls. She had ten pupils, averaging 17 or 18 years of age. These girls were so ignorant that they could not even count in their own language, she said. So Miss Jessup learned sufficient Serbian to instruct the girls in their own work and to teach them how to count one-two-three, etc., so that they could keep a chart of temperature, respiration and pulse.

When asked as to the ability of these Serbian girls in learning the fundamentals of the nursing profession Miss Jessup replied, "They worked well under direction, but they did not seem to know how to use their initiative and assume responsibility. And, sometimes, you are glad they didn't," she added with a smile, "for fear they might do the wrong thing."

Typhus is the frightful disease-enemy of Serbia. Miss Jessup participated in the fight against this plague in her first visit to Serbia in 1915. She contracted the disease as soon as she arrived in the country. En route to her destination to help establish a hospital Miss Jessup was stricken with typhus at Kruchevatz. She was left alone in a coffee-house, to take whatever care she could of herself. A medical friend who heard of her plight came to her and left her some digitalis, to begin taking in about two days. This she did, and with the aid of the small amount of food that she was able to get—when she felt able to get out

of bed and go to the door for it—she got well. Immediately she offered her services to the Serbian Red Cross and was accepted and sent to the Serbian Military Hospital at Zaitchar. She was made an Honorary Lieutenant in the Serbian Army.

Miss Jessup said her arrival in Zaitchar was more exciting than she anticipated. During the night ride, on the narrow-gauge line between Paracin and Zaitchar, the train was attacked by Bulgarian "comitajes" or bandits, tho Serbia and Bulgaria at the time were at peace. Bullets were fired and broken glass crashed in thru the windows. The train stopped and the Serbian soldiers aboard went out and chased away the bandits. Meanwhile, Miss Jessup tended to the wounded and dying. After the confusion the train continued, and in the morning Miss Jessup, disheveled and face bleeding, arrived at Zaitchar to begin her nursing duties.

During her latest period of service in Serbia, Miss Jessup came in contact with typhus many times. The chief method of fighting its spread is by the delousing process. All new patients who came to the hospital at Monastir were undressed in the hall, behind screens, and given a bath and clean clothes. Then all the wearing apparel in which they came to the hospital was sterilized.

Kidney diseases are among the common afflictions in Serbia, Miss Jessup said. This is due in large part, she believes, to the effects of malnutrition and exposure to cold. Many of the younger children are suffering from diseased kidneys.

The Red Cross Hospital received numerous cases of serious injuries to the hand. An entire ward was filled with "bomb cases." These were persons who had lost a hand or foot by the explosion of a "dud"

in the field. Monastir lies in a valley between three ranges of mountains, and as it was the target for almost constant shell-fire thruout the war, its fields are covered with these dangerous, unexploded bombs. Little children playing in the yards of their homes or in the meadows and pastures stumbled over these death-dealing instruments and frequently lost a hand or a foot, or both. During Miss Jessup's hospital career at Monastir she cared for many small boys and girls who had lost both hands in this way. Children are not the only sufferers in this respect. Many farmers ploughing in the fields frequently hit these "duds," with serious injuries resulting.

The dire effects of malnutrition are seen in many forms. Many children were kept in casts for months to straighten crooked legs. Rickets is one of the most common effects of undernourishment and there are few children in Serbia free from this disease in some stage. Tuberculosis, also, has made its inroads on child life, the Red Cross Hospital at Monastir caring for many cases of tubercular spines.

Miss Jessup expects to remain in the United States during the summer and then if her health permits she will return to Europe and re-enlist with the Red Cross. Because of her immunity to typhus, she hopes to serve her next stint of duty in Poland, where that epidemic rages.

Ingrowing Toe Nail.—For ingrowing toe nail (*Medical Summary*, February, 1920), put a small piece of tallow in a spoon, heat it hot and pour it on the sore place. There will be scarcely any pain, and in a few days the edge of the nail will admit of being pared away without any inconvenience.

SOME OBSERVATIONS ON THE EFFECT OF RADIUM IN CANCER TREATMENT.

BY

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The observations in this article have been based entirely on the work performed at the New York Post Graduate Hospital by Dr. George Willis, in charge of the Radium-therapy Department, and in conjunction with the medical and surgical staffs of that institution.

In taking up this subject there are four essential questions that must be answered by facts based upon actual research on the living subject:

I. What is the effect of radium on tissues?

II. How is this effect brought about?

III. Knowing the effect and how it is brought about, what types of cancer cases can we use radium on, and why?

IV. What results may we expect from its use?

(a.) Alone.

(b.) In conjunction with the surgeon.

I. Radium has two effects on tissue. One is minor and can only be brought about by very minute dosage, either in amount or chronicity. This action is "stimulation to growth" and is negligible in the treatment of cancer because the dosages employed preclude any chance of stimulation, due to their size and length of application. The second and main action is that of destruction.

Radium destroys all tissue, but it does this at different rates of speed. "The first cell destroyed is the newest type of cell." This is a rule with no exception. Therefore, inasmuch as neoplastic cells are always the newest in the body they are the first to be affected by the radium rays. This fact gives rise to a very fine point in the technique of radium application, namely, to use just so much radium and for so long a time as to destroy the new tissue,—the neoplasm—and not affect the surrounding apparently normal tissues.

II. This leads us to the second question,

the progressive pathology of tissue primarily recipient of the radium rays. The briefest and clearest description of the pathologic effects following radium therapy has been given by Ewing in the *Journal of the American Medical Association*, April 28, 1917. "In the material gathered in a series of uterine cases at different intervals—two of them having the organ removed two weeks after treatment—the following changes leading to the disappearance of the cervix may be traced: Within three to five days after the application in the cervical canal of 300 mm. of radium emanation in a platinum tube, there is hyperemia of the tissues, beginning exudation of the lymphocytes and polymorphonuclear leucocytes, and swelling of all the cells. In the second week, the cords of tumor cells present a characteristic appearance. The nuclei are swollen, homogeneous and hyperchromatic, the cells loosened, hydropic vacuoles appear in the cytoplasm and fusion giant cells form. In the third week, the number of cells is greatly reduced. Many appear to suffer liquefaction necrosis; others are invaded and mechanically broken up or compressed by lymphocytes and proliferating stroma. From the fourth to the fifth weeks, only pycnotic nuclear fragments or an occasional giant cell are visible, or no traces whatever remain. Meantime, the stroma has been active and appears to take an important part in the process. Leucocytes become overabundant, the capillaries proliferate actively and the stroma is transformed into granulation tissue in which numerous new capillaries penetrate and excavate the tumor cell nests. The gathering of leucocytes, lymphocytes, plasma cells and polyblasts in the later stages of radium reaction may be extremely profuse and in this respect the reaction is somewhat specific. Eventually the site of the tumor is occupied by granulation tissue from which slight serous and cellular exudate is discharged. Later, epithelium grows over the denuded surface, completing the repair."

In this description we note the following effects:

1. Hyperemia, exudation and swelling of all cells.
2. Degeneration mostly colloidal.
3. Repair by granulation thru area destroyed.
4. Recovering of epithelium.

That is what occurs in the ideal case, *i. e.*, the case wherein the proper dosage, screenage and time elements have been observed. However, overdosage of radium altho still destructive is slightly different in its pathologic reaction. To quote Ewing again, "All manner of variations occur in the reaction of tumor tissue to radium. Complete simple necrosis follows overaction of radium. Bulky tumors may present large areas of simple necrosis in which cysts form by liquefaction. The stroma as well as the tissue is destroyed, in which event extensive scarring will result." In other words, the destruction goes on at a greater rate of speed.

We have thus ascertained that the first cell attacked by radium is the cancer cell and that the cell is changed from the tumor type to a negligible type (negligible because it cannot now reproduce, and a cell incapable of regeneration cannot cause metastasis) by colloidal degeneration. We know that the blood supply can and does absorb such a cell in a colloidal state. The danger in cancer is metastasis. But if we degenerate the cell by radium activity, it cannot reproduce even tho it should become detached and be thrown off into the blood stream. Metastases can no longer occur and cancer would then be of itself no danger. Unfortunately, due to the general construction, size, shape and consistency of neoplasms, and to the chronicity element, this ideal situation seldom of itself holds sway. Altho the major portion of the mass so treated will conform to the general scheme of things, still there are always certain cells that are either too deep or have already metastasized or for one of many other reasons are not reached by the rays and so an absolute cure by radium alone cannot be effected unless, of course, the mass is very small, primary and in an easily accessible place for the application of the radium.

III. There are two types of cases on which to use radium. (a) All operable cases preoperatively because the mass is reduced in size thereby and becomes easier for the surgeon to handle. A great portion of the mass is destroyed so that the danger of metastasis is minimized. The amount of bleeding at operation is also decreased. Postoperatively it is recommended to inactivate any remaining microscopical cells that

may have been missed by the surgeon's knife and as a precaution to prevent the recurrence in the scar of the local condition. Of course all this applies to a primary new growth because once the metastasis has occurred we are never sure of a cure. The use of radium is also advocated in (b) inoperable cases not with the idea of curing, but of relieving the patient's suffering. One of the first effects of the use of radium is a cessation of pain. Likewise when a growth has become inoperable it usually causes considerable annoyance to the patient by its bulkiness alone, which, of course, will be reduced by the treatment.

IV. From what has been pointed out we may expect several things from the use of radium in neoplastic therapy. (a) Used alone it will cure a certain few and limited number of ideal cases where the growth is small. (b) In conjunction with the surgeon, the extent of its efficiency may be gauged by comparing the prognoses given to the patients by the surgeons in this type of case before the use of radium and today. In the past the surgeon could only state to his patient his hopes for a successful removal, saying that time would demonstrate this to the patient. Now, after the proper use of radium, the surgeon is entitled to claim a complete removal and consequent cure. It is unnecessary to state what a tremendous advance this is in the treatment of cancer.

Radium therapy alone is not the solution, surgery alone is not the solution, but the success of the treatment seems to lie in the combination of both—with the radium acting as an adjuvant to the surgeon.

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Needless Deaths.—Thousands of children are killed every year because parents say, "They will have it anyway" and permit the little ones to expose themselves to whooping cough, measles and scarlet fever, says the United States Public Health Service.



Problems In Connection With the Study of the Endocrines.—

In a discussion of hyperthyroidism at a recent meeting of the Medical Society of the State of New York (*Med. Record*, April 17, 1920), Dr. S. W. Bandler raised the question of why goiter was eight times more common in women than in men? To him the subject was of especial interest from a gynecologic standpoint. In trying to find an explanation for the nervous symptoms in women he often asked them, "How many days before you menstruate do you know that you are going to menstruate?" Some did not know, others said they had a feeling in the breasts, but the vast majority would say that five or six days before menstruation they were irritable and cross. Now that was due to hyperthyroidism in the largest number of cases, and the way a woman behaved before her menstruation was an index of what gland was sensitive. Now if one looked over one's children one will find that they were irritable at times, but no one seemed to realize that it happened every four weeks. Think of the injustice that had been done to children by not realizing that fact. The Goetsch test proved that there was no such thing as a uniglandular trouble. Adrenal cortex was going to take the place of adrenalin. There was a reason why Dr. Cottis feared to use adrenalin in his local anesthesia on the thyroid. The glands were all interrelated. It is known generally that if we took thyroid extract it could do no harm. This is true of all endocrine products and there is not one that will not do harm if used for the wrong thing. There must be a balance between all the endocrines and each endocrine. Now here was a thing that concerned the medical profession: We were on the verge of what we now thought was going to be a revolution in medicine; we were on the verge of endocrine experimen-

tation, and every one of us was going to try endocrines. Now, then, why not try to correct what was going to be a very serious fault? The public were going to learn about these gland preparations, and were going to go to the druggist and buy them of their own accord, without a prescription. For this reason Dr. Bandler said he felt it desirable to take steps for the appointment of a committee selected from the various sections and added to that a like number of men outside of New York state to talk over this thing and to bring it to the attention of the American Medical Association, so that some action might be taken to prevent the selling of endocrine preparations without a physician's prescription.

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Ovarian Therapeutics.—Present-day literature contains a good deal pointing to the beneficial results of ovarian administration. According to Seibels (*The Charlotte Medical Journal*, April, 1920) various forms of the gland have been used; whole gland, whole gland extracts and ovarian residue as well as preparations of corpora lutea and while the number of cures and the diversity of pathologic processes which have yielded to its exhibition are suspiciously large, one is impressed with the possibility that we have found certain substances in the ovaries of animals which may supply human deficiencies and relieve the symptoms peculiar thereto. The dosage varies with different authors and different preparations but the consensus of opinion is that it should be administered with full dosage at the beginning and gradually reduced to a small weekly amount. The cases showing most marked benefit are those of surgical menopause; amenorrhea, dysmenorrhea, and nervous symptoms associated with menstruation

have been benefited frequently. Certain cases of the vomiting of the early months of pregnancy have been very satisfactorily relieved, it has been reported.

Organotherapeutics.—Ghedini (*Zazzeta degli Ospedali e delle Cliniche*, January 5, 1919; abst. *J. A. M. A.*) insists that instead of using the extracts of organs we should use the venous blood issuing from the organ. This contains the true internal secretion while the cells of the organ cease secreting this product when they are dead. Hence the removal of the organ from the body to make the extract not only arrests production of the internal secretion but probably modifies essentially the delicate secretion already on hand in the tissues of the organ. Instead of a living secretion we get only a dead and possibly decomposed product. The efferent blood contains the secretion in its maximum vital potency. He published in 1911 research on the thyroid secretion thus obtained in the efferent blood, and in 1913 and 1915 similar research on the venous blood from the suprarenals, pancreas, and testicles. Manfredi announced in 1913 that the efferent blood from the pancreas inhibited certain actions of epinephrin. He cites further research since by Ollini, Masera, Durand and eight others. The difficulty of obtaining the efferent blood or lymph hampers and limits the research in this line, but this should be the goal toward which we strive.

Disturbances of Internal Secretion of Sex Glands.—In his interesting article read before the Medical Society of the State of New York (*Med. Rec.*, Apr. 10, 1920). Dr. Quinby discussed the clinical and experimental evidence of the function of the gonads, that is, the sex glands in either sex, and showed instances of disturbed function of those glands as regarded their endocrine function. The testicles and ovaries were organs in which were formed spermatozoa and ova, which might be considered as analogous to the external secretion of their glands of the endocrine system. The gonads, the testicles, and ovaries had a definite internal secretory function,

the products of which so far had not been isolated as definite chemical products. There had been isolated a hypothetical substance, to which was given the name of spermin, but that was entirely impure and had no value. In the male the endocrine portion of the testis was situated in the interstitial tissue, and that tissue went by the name of the cells of Leydig. These cells lay between the tubules and showed different degrees of development. In the female the endocrine function was subserved also by interstitial cells and probably further also by the corpora lutea, but certainly before menstruation occurred the corpora lutea action was not present. Now the evidence, experimented and otherwise, proved very definitely that the internal secretion of the gonads caused the appearance of those signs of body growth which we call secondary sexual characteristics. That term originated with John Hunter. Those secondary changes were the changes that occurred at puberty. There were experiments, especially those of Steinach, which must be mentioned, as they showed the great importance of this internal secretion of the testicles and ovaries. He had attributed so much importance to this interstitial tissue that he had given it the name of the puberty gland—in other words, making puberty entirely dependent upon its action. By experiments on animals he had shown that these secondary sexual characteristics could be produced. Thus male rats which had been castrated before puberty, but in which an ovary had been transplanted, took on secondary female characteristics, and the same was true conversely of rats of the opposite sex. We did not know what the stimulus was that called into activity this property of the gonads. It might depend on the interactivity of other endocrine glands, for instance, of the hypophysis. There might exist gonadal stimulating properties in the endocrine glands. We should find clinical cases in man showing the results of hyper- or hypo-functions of these organs. That is, we should find cases of precocious or delayed puberty in both sexes. Then we could study the effects of double ovariectomy. Dr. Quinby reported a case of precocious puberty in a negro child associated with a tumor of the ovary. The child was seven years old, had bleeding from the va-

gina at the age of four, bleeding recurred with pain in the lower abdomen, the breasts enlarged, there was an abundant growth of hair over the pubes and in the axilla, and there was a tumor in the lower abdomen which was freely movable, but not tender. Family history negative, Wassermann negative, sella turcica normal by X-ray. Tumor of right ovary found at operation and removed; left ovary normal; convalescence normal. Unfortunately further history was lacking. A second case was one of hypogenitalism, that is, a case of delayed puberty associated with possible hypophyseal dysfunction in a girl of sixteen years old. She had never menstruated, was backward in development, but had development of secondary sexual characteristics. She had two symptoms not usually associated with dysfunction on the part of the gonads; those were polydipsia and fainting spells, and suggested disturbance of the hypophysis, but a careful examination failed to discover anything wrong with the cranial nerves or the eye grounds; X-ray of the sella turcica showed it to be of a square shape, but not enlarged.

Pituitary Gland in Epilepsy.—Tucker (*Archives of Neurology and Psychiatry*, August 1, 1919), advances his belief that there is a definite relation between the undersecretion of the pituitary gland and a group of periodic convulsive attacks usually termed epilepsy; that this group is divided into a chronic hypopituitary type and a transitional hypopituitary type by both clinical and roentgenographic evidence; and that pituitary gland feeding has a markedly beneficial effect occasionally leading to cure.

Catarrhal Colitis.—In the treatment of the various forms of catarrhal colitis diet plays an important rôle. (*Mcd. Brief.*) In addition, most of the patients do best when treated with irrigations. Of these, solutions of potassium permanganate, boric acid, gelatin or instillations of protargol are most valuable. The internal administration of large doses of tannigen or bismuth sub-carbonate is helpful.



Treatment of Acute Traumatic Injuries.

—An editorial in the *American Journal of Electrotherapeutics and Radiology*, June 1920, does well to point out that there are too many cases of traumatic inflammation occurring in the every day experience of the general practitioner and surgeon that are so often found suffering weeks or months or even years after the initial injury. For this reason too much emphasis cannot be laid upon the necessity for the systematic adoption of methods that will afford prompt relief and cure. Sprains, bruises or subluxations resulting in either neuritis, synovitis or malignancy which follow in the wake as sequelæ in neglected cases should be cured in the first stages, as they can be by the practical physiotherapist, thus saving continued suffering with final lapse into a chronic inflammatory affection. If not cured in the early stages, it will require weeks and often months to restore the parts to a painless and useful condition.

Under trauma, is properly included all cases arising from exposure as well as from mechanical injury. If we do not include inflammatory conditions arising from toxemia, we still embrace in the class of cases under consideration, most of the inflammatory affections.

It has been said that acute inflammatory conditions should not be subjected to *electromechanical* methods of treatment. No greater mistake has been made by a physiotherapist, neurologist or orthopedist than to assume or state that the acute stage of a traumatic synovitis, neuritis or of poliomyelitis should never be so treated; for the earlier a traumatic injury comes under proper treatment when fracture of bone or ligament has not occurred, the more promptly the condition will be relieved and cured. In no case is this more certain of demonstration than in the treatment of an acute neuritis—brachial or sciatica—or of a sprained ankle, or of a subluxated knee or sacro-iliac joint. Any physician or surgeon who insists upon refusing to accept this as a fact

does so because he has not himself employed an efficient technic or observed the performance, or the result of such performance by a skilled technician.

In the early stage of an inflammatory affection—traumatic, toxic or infectious—the tissues become engorged by an influx of blood to the immediate location of the injured area in response to an unnatural stimulation. The circulation is at first impeded and then arrested and the pressure thus instituted stops or aborts repair and causes pain with the establishment of processes of change in all of the structures immediately involved. At first the escape of blood takes place into the lymph spaces, and later organization of adventitious tissue occurs with the formation of adhesions in quiescent tissues, or of joints put at rest. Such effects are certain to occur, determining conditions in a few days or weeks, which are not readily removed.

If instead of adopting the program of rest, which favors the introduction of chronic inflammation in the manner described the tissues are immediately drained or depleted of the engorgement, recovery is prompt with immediate relief from pain and suffering.

Electro-mechanical treatment when skillfully applied with the static wave current and static sparks, by inducing successive contractions with intermittent release of the engorged and contracted tissues, effects depletion or drainage, relaxes muscular tension and opens up the channels of circulation and coincidentally draws fresh blood to the part, thereby establishing repair of the injury done. The drainage thus effected is thru the lymph channels, and the *stasis* is thus removed without irritation to the parts when the high potential static current is properly employed.

In the early stage of a *sacro-iliac luxation* the relaxation of *muscular spasm* is accomplished, as it is in all inflammatory conditions, when this current is employed. This renders possible the prompt reduction and retention of the luxation; whereas, if the spasm is not relieved, reduction is difficult or impossible; or, if successful, the tense muscles are almost certain to displace it.

In the present skeptical attitude of the medical profession, these facts cannot be too often reiterated in the interest of the suffering.

The Electrolytic Bath In The Treatment of Septic Wounds.—Fowler in discussing the value of the electrolytic bath calls attention to the fact that Russ has shown that practically all bacteria are attracted to the positive pole when a small electrical current is passed thru a solution of sodium chloride. The small current required was also fatal to the germs without the aid of ionized agents and produced no injury to the tissues. On the contrary, the current has a beneficial effect on the tissues, stimulating formation of granulations and the growth of epithelium. The apparatus required is a battery of twenty to thirty cells, a current collector and a milliamperemeter. The wound should be immersed in a warm solution of sodium chloride and the positive electrode placed in the bath. The negative pole should be applied to an indifferent portion of the body and the current slowly introduced and gradually raised to twenty or thirty milliamperes. The treatments should last for at least half an hour and be given daily. This method of treatment of septic wounds yields most excellent results.

Radium-X-Ray Therapy of Carcinoma Uteri and Uterine Bleeding.—As aids essential to any rational attempt to combat or palliate malignant disease in its various manifestations, Bissell in *Minnesota Medicine* (June 1920) says that the radium and the Roentgen rays are now universally accepted. And in certain of these manifestations, an increasing number of surgeons and radiologists are advocating the substitution of these agents for surgical procedure. Such a tendency is especially marked in discussions of the treatment of cancer of the cervix. This is because the operative treatment of this disease, carefully considered from a statistical standpoint is far from satisfactory. First, the percentage of cases considered operable is low, and there appears to be a direct ratio between the percentages of reported operability and mortality. Immediate mortality is high except in the hands of the most experienced abdominal surgeons, and even Wertheim's first one hundred cases showed an operative mortality of thirty per cent.

In the more advanced, relatively hopeless cases combined radiation has certain very

definite advantages over surgery. Without discomfort or shock to the patient, the debilitating foul discharge and bleeding are immediately stopped, and local healing takes place. The patient regains her strength, hope revives, and for a period varying from a few months to several years she may be symptom-free. In the meantime, metastatic foci in the pelvic lymph nodes or elsewhere are systematically attacked by massive doses of deeply penetrating and highly filtered X-rays, with the object in view of preventing proliferation and thereby arresting the progress of the disease. If this purpose fails of complete attainment and the patient eventually dies of cancer, the death is usually rapid and relatively painless, free from many of the disagreeable features of post-operative cancer deaths.

The practice of combining surgical procedure with radiation therapy has been the one most generally followed in recent years, and perhaps time alone will tell whether it affords end results as satisfactory as those of radiation alone. But if both methods are to be employed, their relation to each other must be definitely determined and the function which each is to perform must be equally well defined.

Combined radium and X-ray therapy is the treatment of choice in all cases of cancer of the cervix.

In the early cases, conservative surgery followed by radiation is justifiable but probably the latter alone will prove equally efficient.

In carcinoma of the fundus, surgical results have been so good, that these cases should all be submitted to operation. As in all other cancer cases, however, the patient should be given the added benefit of post-operative radiation.

Radiation should be accepted as a specific in the menorrhagias due to myoma or fibrosis or those of unknown etiology.

Common Salt in Migraine.—It has been found that half a teaspoonful or more of common salt, taken as soon as the premonitory symptoms of an attack of migraine begin to show themselves, will frequently cut it short in about half an hour. Similar treatment has also proved of service in epilepsy.—*Medical Brief.*



By-ways and High-ways

Eliminating the Danger from Canned Ripe Olives.

—In view of the fear that has been created by the recent reports of poisoning from olives, it is interesting to learn that the Washington authorities have issued a statement to the effect that they have met with such a gratifying degree of cooperation on the part of packers of ripe olives that danger from botulinus poisoning will henceforth be eliminated. Five groups of deaths traced to poison produced by the organism known as *Bacillus botulinus* have occurred in New York City; Detroit, Michigan; Canton, Ohio; Memphis, Tennessee; and Kalispell, Montana. All of these cases were due to the consumption of ripe olives. No fatalities have been traced to green olives.

Very extensive investigations have been made by scientists from the Bureau of Chemistry with the cooperation of the packers and the packers have also employed specialists to study the causes of botulinus poisoning and the precautions which should be employed to prevent further difficulty. The experts agree that the trouble is not inherent in the type of container used. Whether the olives be packed in glass jars or in tin cans they may be rendered absolutely safe if proper precautions are taken to prevent the infection with bacteria during handling and if the packages when filled are sterilized at a sufficient temperature and for a sufficient period of time. It is entirely practicable, say the specialists, to sterilize both glass containers and tin cans at a temperature high enough to insure absolute sterilization.

Lack of Precaution Responsible.—Unfortunately some packs of ripe olives put up in glass as well as some in tin during past seasons were not prepared with all the precautions now known to be essential and were not sterilized at a sufficiently high temperature and some of these goods in glass were responsible for the fatalities. It is probable that of all the ripe olives on the market but an extremely small number act-

tually contained *Bacillus botulinus*. Of more than 2,000 individual packages collected and examined in the Bureau of Chemistry but eight were found to contain *Bacillus botulinus*, and seven of these were from the output of one manufacturer and from one batch of his output. In addition to these eight, the Bureau has examined samples of some of the olives responsible for the fatalities and has also found *Bacillus botulinus* in these specimens.

Since there is a possibility of danger from any ripe olive which has been insufficiently sterilized, the Bureau of Chemistry has suggested to the industry that all ripe olives in glass or in tin wherever located be carefully inspected and that any which show the slightest degree of decomposition be destroyed. It has further suggested that all ripe olives which have not been processed at a sufficiently high temperature be returned to the packers for immediate reprocessing at a sufficient temperature to insure complete sterilization. With few exceptions the olive packers have most heartily fallen in with all suggestions made in the interest of the public safety, and by mutual agreement entered into by practically all of the packers they are now taking steps to withdraw from the market all ripe olives in glass containers which have not been sterilized at a sufficient temperature. Similar steps are being taken by some of the packers in the case of minced olive relishes in view of the fact that one death due to the consumption of such a product has been reported. While concerted action to remove ripe olives packed in tin and processed at a low temperature has not been taken by the packers, the fact that spoilage in tin has so consistently resulted in making a "swell" out of the can, constitutes a warning to the purchaser which is not often disregarded. There is no reason to anticipate danger from properly packed and processed ripe olives whether they be packed in tin or glass containers.

Disease and Famine Handicap the Commerce of the World.—Disease and famine are forming an effective barrier to a resumption of normal world trade, according to Dr. Hugh S. Cumming, Surgeon General of the United States Public Health Service, who has just returned to Washing-

ton after two years of a careful study of conditions in Europe and Asia.

"Thru the various relief societies, the people of America have been made pretty familiar with famine conditions in the Old World, but so far they have no idea of the havoc being wrought by diseases", said Dr. Cumming.

"To begin with, the man-power of the world is woefully short. The war casualties alone account for much of this, but in addition to the casualties in the various armies, influenza killed off several more millions. So far as I am aware, there is hardly any place in the world that escaped the epidemic of 1918-19. Thus we have these two causes responsible for an enormous shortage in world labor. We may still add to this the effect of epidemic diseases that are now sweeping thru Asia and eastern and central Europe, regions where in normal times large quantities of raw materials and foods are produced.

"Unfortunately there are no reliable statistics available for the countries which appear to be suffering most, but we may make some comparisons which are illustrative. In the United States in a normal year, for each person gainfully employed there is a loss of nine days due to sickness, a large part of it being preventable. There were approximately 290,000 deaths from pneumonia in the United States in 1918. For every death from pneumonia in the United States we count 125 sick days. There were over 13,000 deaths from typhoid fever. A death from typhoid fever corresponds to a loss of from 450 to 500 sick days. There were over 150,000 deaths from tuberculosis. A death from tuberculosis corresponds to slightly more than 500 sick days among whites and slightly less than this among colored. While it is true that these are diseases in which the death rates are high, that is not the chief factor in causing the high economic loss. Malaria fever very well illustrates the economic loss to the world due to a disease in which the mortality rate is low. Altho conservative estimates place the number of cases of malaria fever in the United States at above 7,000,000 cases annually, the death rate gives no indication of this high prevalence. Yet each case of malaria fever represents a loss of several working days and a continued lowering of efficiency. If we could eradicate this malaria

in the South, and other preventable diseases thruout the nation, the increased efficiency in man-power would far more than offset the loss to the United States due to the war and the influenza epidemic.

"We know that in a number of countries of the Old World, production has ceased, or become inadequate, as a result of disease. Large fertile areas have not been cultivated since the war, industries are idle, or practically so. In addition to this we are facing an extensive spread of pestilential diseases, yet these dangerous diseases can be controlled, for we know a great deal about them. Altogether the economic loss is enormous. Typhus fever is spread by the body louse; bubonic plague by the flea-infested rat; malaria fever is spread by a mosquito.

In the tropical countries malaria is more prevalent than it is in the southern part of the United States. It is also more deadly. In some of the West Indies malaria causes one-fifth of the total-deaths. The work at Panama and elsewhere has demonstrated how completely malaria can be controlled by properly conducted sanitary operations.

"A careful survey made some years ago in the Philippines convinced experts that the efficiency of labor would be increased 30 per cent. by the eradication of hookworm disease. This is fairly indicative of conditions in some other sections of the world where there is a considerable amount of hookworm. The disease is spread by improper disposal of human excreta, and can be controlled and eradicated if health officers can be properly supported in their work.

"In 1917 in British India there were 267,002 deaths from cholera, 62,277 from smallpox, 437,036 from plague and 4,555,221 from 'fevers', a large portion of which was due to malaria. All of the diseases named here are preventable. The disease condition is probably as bad today as it was in 1917.

"I have given only the more striking instances. It would take no stretch of the imagination to figure the economic saving to the world if these preventable diseases could feel the force of a joint attack from the nations of the world. Possibly no single factor would help more to restore the world to a normal basis.

"But there is another and more important reason why this world disease situation should concern the United States. We must be constantly alert to prevent some of these

highly communicable diseases reaching this country. The typhus fever that is raging in Asia and eastern Europe is filtering thru into western Europe. It will require the exercise of every precaution to prevent it becoming epidemic in some of the European nations. If that should occur it would be a gigantic task to keep it from reaching the United States.

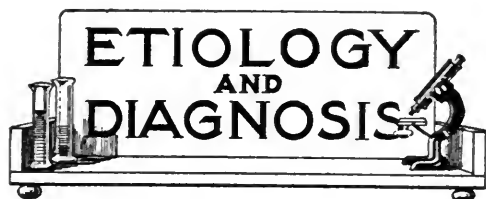
"Even more dangerous, because more infectious, is the spread from one European port to another of bubonic plague. During the past few years plague has gradually invaded one Mediterranean port after another, so that at present there is probably no important port in that sea which does not harbor plague infection. This is really a very serious situation in view of the great increase in commerce which the United States will soon be carrying on with all the European ports. We face a trying situation and need to maintain our defensive machinery in the best possible condition. In addition to the regular quarantine officers at the various ports in the United States, the U. S. Public Health Service is now maintaining a number of experienced quarantine officers in various points in Europe, in order to keep a close watch on all of these diseases and keep the Service advised."

Practical Philanthropy.—George Eastman of Rochester is a philanthropist of the constructive type who believes that the economic ills of mankind can be solved in only one way, by fitting or qualifying the largest possible number of individuals with the technical knowledge which will give them mastery over these ills. His recent gift to Rensselaer Polytechnic Institute will have its effects in bringing each year, into the depleted ranks of industry a large number of new technicians, the need of which experts tell us is imperative. Fully as timely is his still later gift in conjunction with the Rockefeller General Education Board of a \$9,000,000 school of medicine, surgery and dentistry, including a 250-bed teaching hospital, to the University of Rochester. The board contributed \$5,000,000 and Mr. Eastman \$4,000,000.

In addition to these outright gifts, the Rochester Dental Dispensary, which was

built and endowed by Mr. Eastman will furnish the schools with clinical material for the practical study of dentistry.

The medical school is to have laboratories with the most modern equipment for the investigation and study of anatomy, physiology and pathology. The hospital is to be a cooperating adjunct of the whole.



Influenza as an Etiologic Factor in Nephritis.—Thomson and MacAuley (*The Lancet*, Feb. 28, 1920) give the histories of four cases of nephritis following influenza and discuss the literature of the subject. Their conclusions from their studies are as follows: 1. That nephritis is a more frequent complication of influenza than is commonly thought. 2. That the virus of influenza may affect the kidneys in various ways: (a) by producing a temporary albuminuria, as seen in many other acute infectious fevers; (b) by causing an acute nephritis during the course of the disease, especially if respiratory symptoms are present; (c) nephritis may arise during convalescence, as in scarlatina; the damage to the kidneys may not become manifest until the patient is believed to have recovered from the original disease; (d) a dormant or latent nephritis may be lighted up. 3. Nephritis may follow even mild cases of influenza. 4. Nephritis occurring during the course of influenza may be masked by the respiratory symptoms, and only careful routine examination of the urine may demonstrate its presence, while some of the cases arising after the symptoms of influenza have abated may show such slight symptoms—transient edema, slight oliguria, or capricious albuminuria—that they may easily be missed. 5. That the urine in this disease should be frequently tested not only during the disease, but also during convalescence. 6. That probably the frequency and severity of the complication vary in different parts of the world in different epidemics. 7. That in the next few years we may expect in examination for life insurance to find a higher percentage of albuminurics.

Stiff and Painful Shoulders.—Brown (*Surg., Gynec. and Obst.*, October, 1919) suggests that a tear of the tendons of the latissimus dorsi and teres major muscles may play an important rôle in the etiology of some of the cases of stiff and painful shoulder, and summarizes his views as follows: 1. Stiff and painful shoulder of a certain type falls into the general

class of muscular strain about joints, and this muscular strain centers itself in the tendons of the teres major and latissimus dorsi muscles. 2. The condition manifests itself in (a) pain, produced by stretching the injured muscles; (b) a distinct localized point of tenderness over the site of injury in the tendon and its attachment to the bone; and (c) early development of a moderate amount of atrophy of the deltoid muscle due to the involvement of the circumflex nerve in the inflammatory and reparative processes. 3. The condition is amenable to treatment along lines which have proved successful in similar conditions in other parts of the body. This treatment is conservative and is directed toward (a) prevention of trauma, (b) hastening of resolution of edema and exudative process, and (c) the formation of a pliable point of union by means of well vascularized connective tissue.

Frequency and Significance of Granular Urethritis.—Aronstam (*Urol. and Cutan. Rev.*, November, 1919) has found that subjective, spontaneous pain located in the perineum is a pathognomonic sign of this condition. Some patients complain of a smarting sensation irrespective of urination, while in others the pain is periodic. Microscopically, we may detect a gonococcus infection, mixed organisms or a simple staphylococcus invasion. The most important aid in the diagnosis is the urethroscope. Granular urethritis is the causative factor of 90 per cent. of all stricture formation, the remaining 10 per cent. being due to highly caustic agents used as instillations and the hand injections. If granular areas are left untreated, three effects may ultimately take place: (1) The perpetuation of a chronic urethritis accompanied by no pathologic alterations in the structure of the granulations; (2) the most important consequence is the formation of a stricture at the site of their location, either in the anterior or posterior urethra, principally so in the latter; (3) the least frequent result is the transformation of a granular urethritis into that of a papillomatous one, of which the author has had but two in a series of 150 cases.

Jaundice of the Hair.—J. C. McWalter, in a letter to the editor of the *Med. Press and Circular* (May 26, 1920) says that none of the treatises on jaundice which he has read seems to specify the hair as one of the tissues in which jaundice demonstrates itself. Nevertheless, the writer was attending a patient who exhibits a beautiful example of the coloring matter of jaundice in his hair. He has intensely light and thick hair, and has had a very acute attack of jaundice, which imparted to the hair a definite golden orange tint. Examining a hair, one clearly sees the yellowish color plainly marked out in the center of the hair shaft. As the jaundice passed away the color of the hair definitely and rapidly changed in a few days.

This fact would seem to prove that the color of the hair can be altered by substances

taken internally and introduced into the blood—a fact of some cosmetic if not of curative importance.

Capsules composed of hemoglobin have often been recommended for the purpose of darkening the color of the hair. Tho most dermatologists seem to deny their efficacy for this purpose, there appears to be some ground for the claim.

The Diagnosis of Tuberculosis of the Kidney.

—Eisendrath writing in the *Southern Medical Journal* (November, 1919) gives the following as the most important data upon which to base a diagnosis of renal tuberculosis: 1. *Bladder Symptoms*.—(a) Increased desire to urinate, at first often at night, but later diurnal; (b) painful urination, concomitant with the increased frequency, which gradually becomes more and more severe; and (c) incontinence or great irritability as the bladder involvement progresses, so that the patient is unable to control urination. 2. *Kidney Symptoms*.—There is either a dull ache or there are recurrent colicky pains on the affected side or on both sides in bilateral involvement. Enlargement of the kidney is a very unreliable finding. It may be absent altogether and the opposite kidney may be compensatorily enlarged. The same is true for tenderness over the diseased kidney. Rigidity is only found when there is an invasion of the perinephric tissues. 3. *Fever*.—There is little as a rule unless there is a mixed infection present or a sudden retention. 4. *Urinary Findings*.—Pyuria may be present except in cases of closed pyonephrosis or in the early stage of mixed infection cases. Hematuria may be the first symptom or may appear with pyuria at intervals. Tubercle bacilli can be found in the urine in 80 per cent. of the cases by the Forsell or Crabtree method. 5. *Cystoscopy and Ureteral Catheterization*.—This is the most important single method of diagnosis. Unless changes specific of tuberculosis are found in the bladder it is best to suspend judgment until the urine obtained by ureteral catheter has been studied by culture and staining methods.

6. *Pyelography and X-ray*.—These are very important and should be done as a routine in all cases if possible, for they yield much information as to the changes in the renal pelvis and parenchyma.

following summary:—1. Early diagnosis and operation are of first importance. 2. No arbitrary number of hours can be taken as a guide as to whether a case is early or late. 3. An early case requires nothing more than the release of the obstruction, but the operator must be sure that all obstructions are released. 4. Late cases require first, the removal of the contents of the obstructed bowel and the establishment of drainage of the same, and second, the release of the obstruction either at that time or at subsequent operation. 5. The quickest and safest method of removing the bowel contents is by means of a glass or metal tube introduced into the bowel with a long rubber attached to conduct the bowel contents into a basin far from the field of operation, and the glass portion long enough (6 or 8 inches) to permit a number of feet of bowel to be slipped over it. 6. The best method of establishing drainage of the obstructed bowel is by passing a rubber tube into the bowel, then the distal end of it thru a hole in the omentum, then out of abdomen thru a stab wound or thru the original incision. 7. It is best, if resection is necessary, to do it at once provided the patient's condition will permit it, but it must be remembered that the general appearance of obstruction patients is very deceptive. 8. When resection is made at once the proximal bowel must be drained also. 9. When a loop of dead or obstructed bowel is not resected it must be drained as well as the proximal bowel. It is sometimes best to leave such a loop outside the abdomen to be removed later so as to avoid the danger of the loop perforating or sloughing inside the abdomen.

The Deadly Purgative.—A colic is an irregular contraction of the muscles of any hollow viscus. In other words, according to a timely editorial in the *International Jour. of Surgery*, June, 1920, it is peristalsis gone mad under the stimulus of impending peril. Among great minds of some generations past the late Alonzo Clark filled a splendid place. In his day men were still wont to speak of idiopathic peritonitis, finely sounding words that were an efficient cloak to ignorance. Far ahead of contemporaneous thought and still without a realization of the surgical possibilities in the treatment of such affections, Clark discovered and gave form to the idea that an inflamed peritoneal organ loudly demanded and cried for rest. In a number of instances he was able to save threatened lives. Opium was the weapon he fought with, and, to astounded housestaffs, he gave the order to push the drug until the respirations had been brought down to six per minute, at which rate they were to continue. For days at a time patients were kept in a state of stupor, their lives appearing to us like a feeble flutter of existence. But in some the pus would become localized so that it might be finally reached by the superficial incisions which alone were deemed safe. Other patients at last drained themselves thru openings



Treatment of Acute Obstruction of the Bowels.—Bowen (*Jour. of Iowa State Med. Soc.*, January, 1920) concludes his paper with the

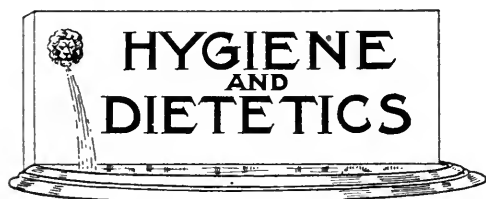
into the intestines or rectum or vagina. At any rate, while a good many died, a fair number recovered. And it must be remembered that, previous to the adoption of this treatment, the disease was nearly invariably fatal, and hence every existence he saved was practically an absolute gain over the results of previous practice. It was not the opium, of course, that cured these patients, but the absolute rest given to acutely inflamed organs to which peristalsis was a deadly foe. After long waiting came another period during which infinite research and bold experimentation succeeded in defining and locating the origin of acute peritoneal inflammations. So swiftly did knowledge and technic improve that soon, if taken in time and wisely handled, such cases began to show a mortality that is fast becoming nearly trivial. In all severe human suffering, of course, pain is among the elements that contribute to the killing. If we can relieve it with some measure of safety the patient's chances are by so much improved. By themselves, morphia and opium remain as valuable as ever, yet must be considered as edged tools to be handled with the utmost caution. A fatal fault of theirs lies in the fact that they obscure the problem. Symptoms become less clear and convincing as pain is lessened, and the patient, temporarily relieved, is no longer able to realize the gravity of his case and the urgency of interference. It necessarily followed that morphia was tabooed because it hindered exact diagnosis, wasted precious time, and gave the sufferer and his friends a false feeling of security. In view of these factors the best clinicians withhold narcotics until a diagnosis is made and, if the case is pressing, until the patient has given his consent to the required interference, for the crying need of rest to the inflamed parts remains as great as ever. This, however, we try to secure in great part by total abstinence from all foods and liquids by the mouth and absolute rest, which, to some extent, provide the needed splinting of the inflamed surfaces. And, chief and foremost, the purgative of former days is called accursed as favoring peristalsis, so that men are yet crying out against the deadly castor oil which some still persist in prescribing. Beloved of our fathers, it is anathema among us now since it can only stir the bowels to greater and painful action, often followed by the rupture that had been impending and which invariably converts a merely serious case into one fraught with tragedy. Swift opening, drainage if necessary, and absolute rest to the peritoneum are the sheet-anchors of the modern treatment of the former fatal idiopathic peritonitis. For much more than a decade has this been thoroly understood, and yet it is pitiful to consider how often the deadly purgative is still prescribed in what is briefly called acute abdomen. Only a few days ago a case presented itself, not in an obscure village but at the center of our greatest city. A young woman returned home late in the evening, to be at once taken with excruciating pain in the right flank. Promptly a neighboring practitioner was called who dosed the pa-

tient at once with a liberal amount of castor oil, to be followed by calomel tablets that were to be helped out with salts in the morning. But soon after taking the oil the patient's torture became so unbearable that the hypodermic had to be called into play and was used with no niggardly hand. In the morning the surgeon called to the case, obtained a history of agonizing pain lasting nearly all night and followed by stuporous slumber. Examination revealed an abdomen rigid as a board. Swift removal to hospital and laparotomy within a few hours showed both appendix and Fallopian tube ruptured, with free pus flooding the abdominal cavity. It chanced that this particular woman's life was finally saved, but the important fact for us to consider is that the use of purgatives at once converted a simply dangerous case into one that came near having a fatal issue. In spite of the constantly repeated warnings of the surgeons, such experiences keep on recurring with pathetic frequency and continue to illustrate the sad fact that, in all branches of human knowledge, science continues to remain years ahead of common practice.

To those unversed in intra-abdominal surgery we can only keep on repeating that in dealing with attacks of pain within the belly, purgatives must be withheld unless there is distinct and clear indication that we are dealing with a condition of gastric or intestinal indigestion, toxic or not. If surgical help must be delayed, the patient should be kept at rest, with the minimum amount of narcotic that will bring some approach to relief, and all food or drink withheld absolutely. While we may regret that such advice is not new, sad experience shows that it is still necessary to proclaim it from the housetops, even if we risk wearying the ninety and nine of our readers for the sake of the hundredth who may go and sin no more.

The Importance of Greater Care in the Removal of Infected Teeth.—Burns (*Dental Cosmos*, March, 1920) in his excellent paper urges greater care in the surgical removal of teeth when their evulsion is indicated by infection. The outstanding fact related to infected "dead" teeth is that almost invariably the infection extends into the bones beyond the apex of the root. Practically in all cases at operation it will be found that the area involved is larger than is indicated by the radiograph. These areas often have a series of pedicles extending at various angles, particularly when the superior laterals or bicuspid are involved. In such cases it would be impossible to remove the infected areas by merely pulling the tooth and trying to curette the socket. Granulomas are often left behind by "pulling" teeth, even when the root is well exposed, and Burns considers this procedure as unsurgical, brutal, and at best, guesswork. The attempt to curette down a socket is merely scratching around in the dark, and may carry infection into the antrum, if a socket extends nearly to or even into it. Not infrequently he has seen small spicules of

broken down bone lifted off the antral membrane when the gum and periosteum were retracted over teeth showing rarefied areas. "Pulling" such teeth and trying to remove infection by curetting such a socket could have resulted only in forcing these spicules into the antrum. Similar conditions are often present in proximity to the inferior dental canal, often encroaching closely upon the mental foramen. It is certainly a safer procedure in any surgical operation to have a clear field with good vision. No place else in the body would any one assuming the title of surgeon follow such brutal, haphazard and dangerous methods as does the average dentist who attempts to "pull" a tooth by main strength and brute force. More rapid and better healing follows the surgical removal than after "pulling." Naturally, this is to be expected. By the former method a clean triangular incision is made, the gum and periosteum retracted over the buccal root or roots or the labial root, as the case may be. With a chisel the bone is carefully removed and the root lifted out; being careful to sponge the field dry renders it possible to properly remove as much of the infected tissue as is humanly possible. There is direct vision; no trusting to a sense of touch. All rough bone being carefully smoothed, the flap is sutured into place. Dead spaces are removed—a matter of prime importance.



The Shortage of Sugar.—Great Britain is evidently feeling the shortage of sugar as well as the United States for an English writer states in the *Med. Press and Circular* (May 26, 1920) that "the question is serious from a national health aspect." Indeed, he frankly voices the opinion that if the Government advance in price to 1s. 2d. a pound is necessary, this valuable carbohydrate product will to a large extent disappear from the national dietary. Continuing he says "To the now proverbially 'new rich' the price will make but little difference, but to the bulk of the population to whom this term is inapplicable—the middle-class, for example, whose incomes are fixed, and who depend upon railway and other industrial dividends which the demands of labor are now rendering negligible—sugar will become a luxury instead of being an essential article of nourishment. In this case we must expect a great increase in the use of the substitute—saccharin. It is needless to note that saccharin is a coal tar product, and has no value as a food. Again, the fact has to be remembered that if substituted in whole or in part for sugar, saccharin reduces, lowers, and injuriously affects the quality and value of a food product.

The shortage of sugar is partly attributed to the lack of beet cultivation in those countries which before the war specialized in the production of sugar from this source. The overproduction which ensued made the cane-sugar industry unprofitable, and the West Indian Colony of the Empire severely suffered in consequence. The cultivation of the sugar-cane at the present time might appear attractive to West Indian planters, but with the prospect of beet sugar again coming into the market at prices with which the planters could not compete, there does not seem to be much probability of the sugar-cane industry being restored with the object of meeting the world demand."

The Antiscorbutic Vitamine.—Dr. Alfred F. Hess recently read a paper before the Medical Society of the State of New York (*Medical Record*, April 10, 1920), in which he said that in the days of long voyages, scurvy constituted one of the greatest plagues in navies. It must not be thought that because trips were shorter and we had refrigeration that scurvy was a thing of the past. It had merely changed its form, and in the World War scurvy was by no means absent. In the latter part of 1917 the British had many cases of scurvy in their colonial troops in Mesopotamia. Russia and Roumania were afflicted with scurvy after their defeat by the Germans. Scurvy had changed and now presented itself in the latent form. It might occur in patients suffering from fever or in patients suffering from gastrointestinal disease whose diet had been limited. However, scurvy was more particularly a disease of infants, of artificially fed infants. This disorder was important not merely for itself intrinsically but it led to other diseases; for instance, it was found in this war that those who had a lack of the antiscorbutic factor were more subject to pneumonia and succumbed to it, and that in wounded soldiers the wounds healed less rapidly. Disease which ordinarily showed a slight petechial rash, as meningitis, might show a hemorrhagic rash in a patient suffering from scurvy even in latent form.

We know little about vitamins in general, but we knew more about the antiscorbutic vitamin than others. We knew that it was soluble in water and in alcohol. It was the most sensitive of the vitamins to heat and drying. There was no evidence that the antiscorbutic vitamin could be stored up. In an experiment on guinea pigs in which one group was given a minimal amount of orange juice and another group twice that amount, and then both groups fed on a diet deprived of the antiscorbutic fact, both groups developed scurvy in the same length of time. In other words, those that got the two-fold dose were not able to avail themselves of the excess. As to the function of the vitamins: the antiscorbutic vitamin seemed to be needed for the endothelial cells of the blood vessels, and if there was lack of this vitamin, the blood vessels gave way and hemorrhages occurred which were characteristic of scurvy.

This was subject to experimental test; for instance, if one bound the wrist in a case of scurvy, the congestion would lead to a large number of petechial spots on the forearm. In other words, the blood vessels were unable to resist the increased pressure; after administration of orange juice this test would result negatively. Other cells were not so sensitive to lack of this principle. We knew that infants suffering from scurvy gave a negative Schick reaction. As regarded the presence of this vitamine in the various food substances it was contained mainly in vegetables and fruits, oranges, lemons, cabbages, and onions were particularly rich in it, whereas apples and beets were poor. Then the amount varied in the same vegetable, new carrots contained more than old. We could not frame a table with any degree of accuracy. The British commission had said that drying destroyed the antiscorbutic principle in food stuffs; they had said that all dried food stuffs were deprived of antiscorbutic value. Altho this was true in general, there were exceptions. In the laboratory, tomatoes, cabbages, and oranges had been successfully dried. On the other hand, we must consider, that dehydrated vegetables as prepared commercially had no antiscorbutic value. Dried milk, if properly prepared, had antiscorbutic properties; of course, the milk to be of value must originally have possessed these properties. Milk must be quickly dried and sealed soon after, hermetically. Dried milk could retain antiscorbutic properties for three months. He did not mean to say that it was not advisable to give antiscorbutic food with dried milk, but he brought this forward to show that milk could be dried and still retain its antiscorbutic properties. The same was true of canning, tho canning, as might be expected, usually destroyed the antiscorbutic properties, yet there were exceptions to this rule. As Dr. Mendel said, acids particularly preserve and protect the antiscorbutic vitamine, they protect it against heat and drying and canning, and therefore we found that canned tomatoes were very rich in antiscorbutic properties, partly because they were acid and partly because they were put in a sealed container. The question of the access of air to food stuffs was of prime importance. Foods lost their antiscorbutic properties on exposure to air. The speaker did not believe that there was any more valuable antiscorbutic for the prevention and cure of scurvy than canned tomatoes. It was cheap, was well borne, and was available. The tomato was given, just strained, as it was taken from the can without any previous heating and given in doses of one ounce to the youngest babies. As regarded milk, pasteurization impaired or diminished the antiscorbutic property but did not entirely do away with it. Babies that were nursed did not develop scurvy, it was only the artificially fed ones that did. There was no reason to believe that human milk was any richer in vitamine than cow's milk. Six ounces a day of mother's milk were found insufficient to cure scurvy. It was known that it took about 16 ounces of cow's milk to cure scurvy, so that

the antiscorbutic content of human and cow's milk was about the same.

Buttermilk A Food Drink.—A pleasant, refreshing beverage and a nourishing food combined in one product is found in buttermilk. It contains practically all the food materials of whole milk with the exception of the fat, most of which is removed in the process of churning. Buttermilk contains about 3 per cent. of protein, nearly 5 per cent. of carbohydrates in the form of milk sugar, 0.7 per cent. of mineral constituents, and 0.5 per cent. of fat. Thus, a quart of buttermilk furnishes slightly more than an ounce of protein, one of the chief body builders.

The increasing consumption of buttermilk testifies to its popularity as a beverage. People are beginning to realize that it is much better to drink a glass of milk or buttermilk than it is to consume other drinks having little food value. Many physicians recommend buttermilk in the treatment of certain intestinal disorders, and it is also gaining in favor in hospitals.

Prepared buttermilk usually is made from skimmilk and has all the chemical properties of buttermilk. If it is churned, as is usually the case, it agrees in appearance and flavor with real buttermilk. In fact, often it is a better product, especially if clean, sweet buttermilk can be made in the city home, but, more uniform results can be obtained when it is made on a large scale, and, for that reason, it usually is better to purchase it from a reliable dealer.

Buttermilk Lemonade.—A delicious variation may be made from ordinary buttermilk by the addition of lemon juice and sugar. "Buttermilk lemonade" usually requires the juice of three lemons to one quart of buttermilk. The quantity of lemon and sugar, however, should be varied to suit the taste of the individual. The beverage is delightful and is especially refreshing on a hot summer day.

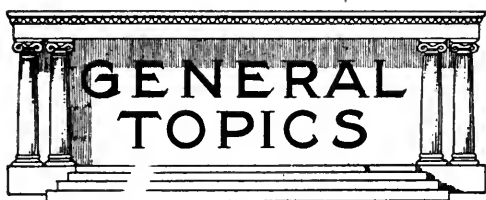
Lacto.—The Iowa Agricultural Experiment Station, in *Bulletin* 118, describes a number ways in which sour milk or buttermilk may be converted into frozen delicacies. The following formula is adapted from the Bulletin:

2 quarts buttermilk
2 pounds of sugar
2 eggs
1½ cups orange juice
½ cup lemon juice

Dissolve the sugar in the buttermilk and add the eggs, the yolks and whites beaten separately. Stir and strain the mixture and add the fruit juices. Freeze in the usual way, and pack in ice and salt for an hour before serving.

Of course, buttermilk may be used in cookery in any recipe calling for sour milk.

Additional information concerning buttermilk may be found in *Department Bulletin* 319, entitled "Fermented Milks," which can be obtained upon application to the Superintendent of Documents, Government Printing Office, Washington, D. C. at the price of 5 cents.



The First Chinese Medical College.—During the war between Japan and Russia in 1904 the Chinese Red Cross was formed to look after thousands of Chinese who were left homeless and destitute in the regions where fighting raged for many months. After the situation was relieved, a considerable sum of money remained over, and upon decision of members of the General Council, ground was purchased near Shanghai and a large, handsome building erected as the Chinese Central Red Cross Hospital and Medical College for Chinese students. The hospital is completely equipped with the most modern apparatus and furnishings. Instruction in the college is in English only.

The first year there were twenty registrants. Each received his degree as a competent practitioner. Graduates of this school under the direction of Dr. S. M. Cox, and by use of methods discovered by his brother, Dr. Robert Cox, have done much to alleviate suffering from former severe epidemics. The Chinese are proud of their medical school and view the results of its work with much satisfaction.

The Chinese Red Cross is today an organization with 25,000 members, whose interest in world relief work is evidenced by the entrance of the society into the League of Red Cross Societies. The Chinese have been much impressed with the work of the American Red Cross both during and after the war, and China now desires to take her place beside the other nations of the world in the work of relieving human suffering.

An Interesting Case Under the Care of the Federal Board for Vocational Education.—One of the most interesting speech defect cases among the disabled veterans of the World War is that of Private Henry J. Koopman who suffered complete motor and sensory aphasia following an operation for mastoiditis.

His hospital record showed that before the operation, Koopman spoke English without an accent. After the operation, he could utter a few German phrases, but no English. He could neither name nor locate the parts of his body.

Koopman's training was started at General Hospital 11, Cape May, N. J., July 28, 1918, under an expert teacher. In two days, he could count to four. In one week, he could do simple addition. In two weeks, he knew three parts of his body, and could speak one connected sentence. In three weeks, he could locate all the parts of his body, and began left-hand

writing to develop the speech centers on the right side of his brain, to take the place of those destroyed on the right side.

In September, he could shave himself, tell time, and work with fractions. In November, he could write with both hands. It was discovered that his previous education had been limited, but that he was a remarkable card-player and a beautiful dancer.

In December, he could read simple sentences, write a short letter, spell easy words, measure, and calculate. His speech is broken but intelligible. He can talk for twenty minutes without stopping.

Koopman has now received his discharge from the army, so that the matter of his speech training comes under the Federal Board for Vocational Education. The Board's special agent for cases having hearing and speech disabilities has arranged for Koopman to have training under the same expert teacher with whom he started training at Cape May.

Induction of Anesthesia and Analgesia by Oral Administration of Various Drugs, With A Report of Cases.—In connection with his special studies of the oral method of inducing anesthesia, Ficklen (*New Orleans Medical and Surgical Journal*, January, 1920) gives the following formulas which he has found serviceable and effective:

FORMULA 1.

Ether, 4 fluidrachms;
Liquid petrolatum, 4 fluidrachms;
Peppermint water, 5 minims.

FORMULA 2.

Paraldehyde, 1 to 3 fluidrachms;
Ether and liquid petrolatum, equal parts to make 1 ounce;
Peppermint water, 5 minims.

FORMULA 3.

Ether, 3½ fluidrachms;
Liquid petrolatum, 4 fluidrachms;
Peppermint water, 5 minims.

FORMULA 4.

Chloroform, ½ to 1 fluidrachm;
Ether, 3½ fluidrachms;
Liquid petrolatum, 3½ fluidrachms;
Peppermint water, 5 minims.

Method of Administration.—The author recommends, at the suggestion of Major Lower, that port wine be given before and after the dose. He states that rinsing the mouth thoroly with the wine disguises the taste of the drug effectively. As a substitute one may employ undiluted whisky. Probably yerba santa could be used to better advantage. The taste of formula 4, as he knows from experience, while pungent, is not as unpleasant as that of castor oil.

Approximately sixteen cases are reported, in most of which ether liquid petrolatum was given. One vomited; three fell into a light sleep. The administration of a half-dose gave unsatisfactory results. Extensive dressings were done without pain; the patients had no headache, and woke with good appetites. For-

mula 4 was given in approximately thirty cases, and it is a more satisfactory mixture than the others. Detailed case reports, however, are not presented.

Ether oil by mouth was also used as a supplement to chloroform anesthesia. An extensive operation on the knee-joint was performed in this way with the use of only two drachms of chloroform.

In his conclusions he states that ether, chloroform, and liquid petrolatum when swallowed in the quantities stated produce a safe general analgesia, accompanied in nearly all cases by light anesthesia.

Vomiting occurs in a small proportion of cases.

Alarming symptoms have never been observed.

The effects of the drugs are intensified and prolonged by the administration of morphine.

The ether oil mixture is not as powerful as the formula to which chloroform has been added. This conclusion is reached by comparing the case report of Drs. Gwathmey and Karsner with his own.

Ficklen thinks the field of usefulness of the procedure should be broadened. Enough cases have already been observed to show that it is of value in painful dressings and as a supplement to general anesthesia. It has not been used, as far as he has been able to ascertain, in gynecologic examinations where relaxation is necessary, in suspected malingering, in manipulation of ankylosed joints, nor in obstetrics.

Since the method is yet in its infancy, further tests should be made to determine its status in surgery, and the above suggestions are made with this in view.

Liquid Paraffin for Disinfecting Needles and Syringes.—Liquid paraffin which boils at 350° C. is recommended by Waterhouse in a recent issue of the *British Medical Journal* as an excellent agent for cleansing and disinfecting hypodermic needles and syringes used for exploring purposes, for withdrawing blood, and for giving intramuscular injections, etc.

A simple method is to heat the upper part of a test-tube three-quarters full of liquid paraffin until currents appear (indicating a temperature of about 150° C.), or rather longer, draw the heated fluid at once into the syringe until it comes into contact with the whole of its interior, and then eject it.

The advantages are the rapidity and simplicity with which complete sterilization can be effected at the bedside and the absence of deleterious effect on the needles, which, if always disinfected and cleansed in this way, never rusts, but remains patent and useful as long as it can be kept sufficiently sharp. The method is particularly useful for needles and syringes for giving intramuscular injections of mercurial cream.

Caution is needed in heating the paraffin, or it may spurt; but this is easily avoided if care

be taken to move the test-tube up and down in the flame while heating. An experience of this means of disinfection extending over six years has convinced Waterhouse of its utility.

The Importance of Blood Pressure Observation in Surgical Prognosis.—Speaking before the Providence, R. I., Medical Association, Albert H. Miller, president of the American Association of Anesthetists, drew attention to the fact that the blood pressure is the most valuable single means at the disposal of the surgical team for making a pre-operative prognosis and for judging the condition of the patient during and after operation. It may uncover arteriosclerosis, nephritis, myocarditis, aortic insufficiency, or mitral stenosis. It registers the ability to withstand hemorrhage, the depression of the anesthetic and surgical shock. In an article in the *Boston Medical and Surgical Journal*, 1919, Miller contends that in the present advanced state of surgical knowledge, the patient has a right to expect a fairly exact pre-operative diagnosis and a very exact pre-operative prognosis. The surgeon who makes and records a prognosis before each operation and checks up his pre-operative opinion with the result will rapidly gain in skill in this important department.

Miller classifies his cases into good, fair and poor risks. Good risks—patients free from organic disease, whose surgical condition is not likely to prove fatal—are expected to recover. If a fatality occurs in this class of patients, the case should be carefully gone over to determine if the pre-operative prognosis was in error or the work of the surgical team to blame for the fatality. In fair risks—patients suffering from organic disease, but whose surgical condition is not specially serious, if no examination and no prognosis have been made, the necessity for a lame explanation of a fatality—for instance fatal diabetic coma after appendectomy—is most deplorable. In poor risks—patients whose surgical condition is so serious or so far advanced as likely to result in fatality—recovery may be unlikely without operation, and the prospects of death should be anticipated by due warning.

In a series of 1,000 consecutive operations, studied under this classification, Miller found the following results:

	Class 1	Class 2	Class 3	Total
Cases	734	179	87	1000
Deaths	2	14	29	45
Percentage .....	.27	7.82	33.33	4.5

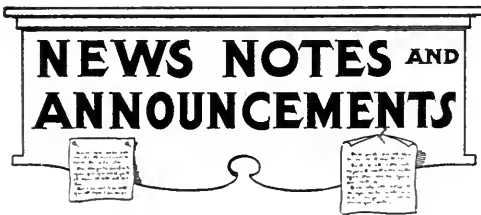
The deaths recorded occurred in from 24 hours to 3 weeks after operation. No deaths took place during or immediately following operation. Measured measure of anesthesia were used by Miller exclusively.

To determine the accuracy of Moots' rule—that if the pressure ratio (representing the relationship existing between the kinetic energy expended by the cardiac contraction in moving the blood column and the potential energy stored in the arterial walls and columns of blood which they contain) lies between 25 and 75

per cent. the case is probably operable, if outside these limits, probably inoperable—Miller investigated his series of 1000 cases and tabulated the results. According to Moots' rule 3.23 per cent. of the operable cases died and 96.77 per cent. recovered. Of the inoperable cases 23.07 per cent. died and 76.93 per cent. recovered. Some of the cases classed as inoperable underwent minor operations safely, and some of those classed as operable died after very serious operations and under circumstances which could not have been readily predicted. On an average, Miller believes that his results show the great value of Moots' rule in surgical prognosis.

McKesson's rule—that after a half-hour of sustained low blood pressure and rapid pulse, almost every patient succumbs either shortly or within three days of surgical shock and heart exhaustion—was put to a similar test. In a considerable number of cases shock (characterized by a diastolic pressure of 80 mm. or less, a pulse pressure of 20 mm. or less and a pulse rate of 120 or more) was reported by Miller to his surgeons and the operation rapidly completed. All of these patients recovered. Thirteen of the patients were in the danger zone from 25 to 70 minutes. Of these 9 died, giving a mortality rate of 69.23 per cent. These figures certainly indicate the great value of McKesson's rule for determining shock during operation.

Both rules, according to Miller's conclusions, are trustworthy and valuable aids and should be routinely employed.



New Treatment for Leprosy Apparently Successful.—The United States Public Health Service has reports of what appears to be a cure for leprosy, it was announced by Surgeon General Hugh S. Cumming recently.

Thus one of the world's most dreaded maladies, regarded as a hopeless and incurable scourge of humanity since early history, would seem to have been conquered by officers of the Public Health Service in the leper colony in the Hawaiian Islands.

For some years the belief has been gaining ground that leprosy could be cured, and encouraging progress was made by several investigators. The starting point for this study was the observation that now and then the course of the disease appeared to be favorably influenced by treatment with chaulmoogra oil. The treatment, however, was attended with many difficulties and could not be carried out in all cases. At this point the Public Health Service enlisted the cooperation of Prof. L. E.

Dean, head of the chemical department of the College of Hawaii, and president of that institution, suggesting that attempts be made either to isolate the active constituent of this drug, or to devise means for making its continued administration feasible. The latter has been accomplished by preparing what is known as an "ethylester" from the chaulmoogra oil. The treatment has been carried on at the Leprosy Investigation Station at Kalihi, Hawaii, the work being directed by Dr. J. T. McDonald, director of the station. The results of the treatment thus far have been so satisfactory that lepers come willingly for treatment, a recent inspection by Hawaiian health authorities failing to disclose a single secreted case of leprosy. Following a course of treatment, extending over about a year, 48 lepers, treated according to the new method, were paroled in October, 1919. Up to now they have remained free from disease. At the present time the treatment has been administered only at the receiving station, but it is hoped to provide facilities for the treating also of lepers in the leper colony at Molokai.

Surgeon General Cumming's announcement relates to lepers who have been treated by the new method and have been under observation for a considerable period. Moreover, the decision as to apparent cure has, in the case of each patient, been officially determined, not by officers of the Public Health Service, but by a special parole board, which alone has authority to discharge a patient from custody.

The Public Health Service is now conducting a very careful study of the treatment, making detailed records of all the cases and taking photographs of the lesions once a month. Details concerning the treatment will be published in the near future.

The Modern Hospital has a Home of its Own.

—The Modern Hospital, having long since outgrown its former quarters because of the increasing service it is being called upon to render in the hospital field, has removed its offices to its own building at 22-24 East Ontario Street, which will hereafter be known as The Modern Hospital Building.

In establishing its headquarters in this building, The Modern Hospital is adding another to the growing group which is establishing Chicago's reputation both here and abroad as the center of medical and hospital organization and education in this country. Within a few blocks stands the building long occupied by the American Medical Association, while the new home of the American College of Surgeons is only a stone's throw away.

The Modern Hospital Building will be a veritable center of national hospital, health, and welfare activities. It will house not only the offices of The Modern Hospital, the Modern Hospital Year Book, and Modern Medicine, but also the national headquarters of the American Hospital Association and the National Catholic Welfare Council (Division

of Social Action). What this will mean in the way of more expeditious interchange of thought and activity and greater ease and co-operation between the number of national organizations at work in the hospital and kindred fields can readily be seen. Other developments are pending which, when consummated, will greatly enhance this center to all who are interested in these fields of work.

An Appeal for Medical Journals from Austria.—In the *Times* recently, Sir Clifford Allbutt makes an appeal on behalf of Austrian physicians and students. He has heard from Professor Wenckebach that their penury is so great that they cannot afford a cent for books or journals, home or foreign. He therefore appeals to Great Britain for recent medical and scientific literature for which students in all faculties are athirst. He describes the zest with which a group of students will pounce on any fragment of a journal which may drift into their bare libraries. Sir Clifford Allbutt therefore begs the readers of the *Times* not to throw away journals, books or papers, and perhaps to make some little sacrifice to spare such literature for the Vienna University. A London firm has undertaken to forward them in bulk. Cannot American medical men do something along this line for the physicians of Vienna whom we understand are laboring under conditions of the greatest poverty and distress? Many a physician can recall happy days in old Vienna.

Combined Meeting of the National Anesthesia Research Society and the Pennsylvania State Med. Society.—The National Anesthesia Research Society will meet with the Interstate Association of Anesthetists, the Pennsylvania State Medical Association and the Western Pennsylvania Odontological Society in Pittsburgh, October 4-7. This will be one of the largest and most important meetings ever held to advance the science and practice of anesthesia. To stimulate the presentation of worthwhile papers on researches in anesthesia, the N. A. R. S. will award money prizes for the three best papers submitted on this occasion. All activities of the meeting will be centered in the William Penn and Ft. Pitt Hotels. Make your plans now to attend and secure your hotel reservations at once.

A Step Toward Coordinating Child Health Activities.—Organizations doing health work among children are more and more appreciating the pressing need of correlating their activities. It is felt that not only is there much duplication and, therefore, much waste of effort, but also that many opportunities for developing well rounded programs for the health of children are thus lost.

The American Child Hygiene Association, American Red Cross, Child Health Organization of America, National Child Labor Committee and National Organization for Public Health Nursing have held several conferences with a

view as to how such correlation may best be effected.

As a result, the representatives of these organizations have formed a Council for Coordinating Child Health Activities to which will be added gradually other national organizations carrying on well defined programs for the health of children. The main objects of the Council are:

1. To define and develop so clearly their own work that each organization will be working in harmony and cooperation with all the others.

2. To develop new methods which will lead to meeting more effectively some of the special problems still unsolved.

3. To afford an opportunity for any organization dealing with the health of children to submit its plan and program for suggestions.

The Council will act as an advisory and coordinating agency.

The First Professorship of Anesthesia.—Dr. S. Griffith Davis, of the Research Committee of the National Anesthesia Research Society, advises that the University of Maryland, which several years ago created a separate department of anesthesia and put him in charge with the title of associate professor, has now realized the importance of the work and given him a full professorship. So far as records are available, this is the first professorship of anesthesia to be created in the United States. Dr. Davis ventures to hope that other schools will soon follow the example set by the University of Maryland.

Another Sanatorium for Tuberculous Soldiers.—According to an announcement made by Surgeon General Hugh S. Cumming, the magnificent tuberculosis sanatorium heretofore operated by the Army authorities at Fort Bayard, New Mexico, has just been transferred to the U. S. Public Health Service, and will soon be available for treating discharged, disabled soldiers. Splendidly located, not far from Silver City, and conveniently accessible on the Santa Fe Railroad, this sanatorium has long been the pride of the Army. The climate is almost ideal, in that it permits outdoor life for a large part of the year.

The Fort Bayard Sanatorium will provide the Public Health Service with 1,000 additional beds to care for its tuberculous patients. The present sanatorium at Deming will be held in reserve, specially for winter use.

At the Fort Bayard Sanatorium the Public Health Service will treat only ambulatory cases of tuberculosis, in which the prognosis is favorable. Patients will be admitted only after careful observation elsewhere to make sure that their condition is suitable for successful treatment at the high altitude of this sanatorium. In general, it is the policy of the Public Health Service not to move patients far from their homes, for experience has shown that such removal often has an unfavorable effect. For this reason patients for the new sanatorium will

probably be drawn principally from the middle and south-west sections of the country.

The Death Squad.—A little band of seven Americans, who have faced the gravest danger day in and day out for six months fighting typhus in Esthonia, have had bestowed on them the name of the Death Squad. Today only one of the original band, all members of the American Red Cross Commission to West Russia, remains on duty unscathed. Two are dead, and three will bear to their graves the marks of the terrible spotted typhus which they contracted in the line of duty.

The dead are Lieutenants Clifford A. Blanton, of Chattanooga, Tenn., who succumbed to pneumonia at Norva, and George W. Winfoeld, of Highland Falls, N. Y. The three who were stricken but recovered are Captain Wilbur P. Howell, of Brooklyn, N. Y., Captain A. C. Robinson, of Honolulu, and Dr. J. A. Whittaker, of West Branch, Mich. Lieutenant Willard C. Smith, of Winchester, Ill., following the disbanding of the original squad, left for America, where he goes to complete his studies for a medical degree.

The only member of the heroic band still at his post is Captain Archie McAllister, of Jacksonville, Florida.

Dr. Flexner to Represent America at International Medical Conference.—Dr. Simon Flexner, director of the Rockefeller Institute, will represent the United States at a conference of the world's leading medical scientists at Geneva, July 5th, the first formal meeting of the Medical Advisory Board of the League of Red Cross Societies.

International health improvement and disease prevention, two of the cardinal principles of the League of Red Cross Societies, have already been given extended consideration. So at this time, when disease is reaping almost unhindered toll among the underfed and undernourished populations of eastern Europe, the action of the League is expected to play a major part in the reconstruction and restoration of the afflicted nations to health.

Representatives from other countries who will attend the international conference in July are: Belgium, Professor Brodet; Denmark, Professor Madsen; France, Professor Roux, Professor Albert Calmette and Dr. Leon Bernard; Great Britain, General Lyle Cummins, Sir Walter Fletcher and Sir George Newman; Italy, Professor Bastianello and Dr. Castellani; Japan, Dr. Kinnostke Miura; South America, Dr. Chagas.

Psychiatric Social Workers Wanted.—The United States Public Health Service has appealed to the American Red Cross to begin a national campaign for volunteers to be trained as psychiatric social workers among the 50,000 World War veterans suffering from nervous and mental diseases in Public Health Service hospitals. Nearly two hundred workers will be needed before fall to care for such cases. There are today only 150 such workers in the country.

and it is obviously inexpedient to take them from their present tasks.

In accordance with this request, the Red Cross seeks volunteers for these positions at salaries ranging from \$1,500 to \$2,100 a year, offering summer school courses, on a scholarship if necessary, to provide trained workers by fall. The Red Cross is so hard pressed in its own departments that it will be necessary to recruit students from other groups of social workers. That the employment will not be temporary is shown by figures compiled by the Bureau of War Risk Insurance, which estimates that the peak of these cases will not be reached until 1929.

There are at present seven large hospitals operating under the Section of Neuro-Psychiatry in the Public Health Service. One has no trained psychiatric worker, while none has more than one. The number of beds each worker can handle efficiently is estimated at forty, so that, with a capacity of about 1,300 beds in the seven hospitals, 34 workers are needed in them alone. About 100 others are needed in the District Supervisors' office of the Public Health Service Department and in other administrative tasks. Seventy more are needed to handle increasing numbers of cases expected in the fall.

Smith College, the New York School for Social Work, and the Chicago School of Civics and Philanthropy offer summer courses in this work and will receive Red Cross students. To take the courses, recruits must have a college education and at least one year of case work experience. A large number of applications have already been received—many of them from women with overseas experience.

American Sanitary Work in the Virgin Islands.—What the American flag means to the Virgin Islands, expressed in terms of life and death, is shown in the vital statistics for the first quarter of the present year. A statement by the chief municipal physician of St. Thomas and St. John shows that the death rate for the first three months of 1920 is the lowest on record, being about one half the death rates recorded for the English, French and Dutch West Indian islands, and four below the 1919 rate of the registration area in the United States. In addition, the birth rate exceeded the death rate by over 133 per cent. while infant mortality was 76.9 less than half the infant mortality recorded in the surrounding islands, and considerably below the rate in the states.

Health and sanitary work is under the supervision of the American naval government of the possession, and Navy medical officers aver that the American Red Cross, which has in the last two years spent nearly \$44,000 for the equipment of hospitals on the islands, has been of very great assistance in improving conditions.

Funds for the administration of the islands are limited, but in spite of this, in two years the general death rate has been lowered from 39.5 per 1,000 to 13.6, and the infant mortality from 251.7 to 76.9.

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Physicians and Prohibition Laws.—

The United States Supreme Court has established the constitutionality of the 18th Amendment and the Volstead Act. Thus has been settled the status of prohibition in our national legislation. The fact remains that future legislation may alter the percentage of alcohol in beverages to be regarded as intoxicating. For the present, however, one-half of one per cent. represents the standard of alcoholic content that is legal.

Newspapers have recently contained reports of alleged violations of the prohibition law by physicians, in that they have issued prescriptions for more than the quantities authorized or have given orders for liquor to be supplied for a too large variety of physical conditions masquerading under high-sounding titles, with the purpose of satisfying the cravings of patients whose actual condition did not indicate the necessity for alcohol as a medicine. It is probably true that in the medical profession there are some who are willing to be placed in the category of potential saloon-keepers passing out orders to the druggists who are compelled to serve as bar-keepers. The actions of such a group in the medical profession merit the most emphatic repudiation. Violation of law is not to be condoned on the grounds of medical privilege.

Unfortunately, medical tradition has assigned to alcohol a far more important place

in the treatment of the simpler forms of disease than scientific investigation or physiologic results warrant. The old textbooks stress the value of alcohol to prevent or check a cold after exposure, to serve as a narcotic or sedative for various conditions of nervous instability, to act as a hypnotic for the relief of minor, chronic types of insomnia, to act as an antipyretic in febrile conditions. No longer is there as great dependence placed upon alcohol in the treatment of tuberculosis, fevers and the contagious diseases.

The prescription of alcoholic beverages

has undergone a marked decline with a very thorough understanding of its disadvantages and hazards and the lack of scientific rationale in the management of those conditions in which tradition had assigned it a position of prominence.

While most of the opposition to alcohol has been leveled against whiskey, brandy and high-proof beverages, and greater liberality has been manifested towards the use of ales, beers and light wines, even these have possessed a low value as strictly medical agents for the physical body. The psychological phases of drinking are thoroughly understood, but these do not suffice to satisfy the present legal requirements concerning its administration, despite the fact that theoretically the physician remains the judge as to the indications for prescribing alcohol.

It is a peculiarity of the present law that the doctor is not given free scope in the determination of the amount of alcohol that may be prescribed. His judgment as to necessities of a specific case is limited by the provision that not more than a pint of whiskey may be prescribed within ten days. There may be some question as to the right of the law to determine alcoholic dosage, which should be a part of the personal responsibility of an attending physician. If it is legal to limit the dosage of alcohol, it is proper and right to limit the amount of any other drug, tho, of course, the likelihood of such action is small, save in the case of habit-forming drugs. It is necessary for the profession to recognize the legality of the present legislation, and to make practice conform to its demands. There is no reason or defense for evasion. The fact that the administration of alcohol has been abused is undeniable. It would be unfortunate if the medical profession were to accept the position of the saloon-keeper legislated out of existence. The great mass of conscientious physicians resent the imputation of professional dishonesty, and look askance at those individuals who persist in lowering the standards of professional practice by stooping to illegal procedures. Undoubtedly, there will be some who, because of lack of conscience, commercial greed, or personal indulgence will continue to commit violations of the prohibition law, but in this they will be in the same case as countless other violators of laws which are not accepted as an expression of mass opinion. There are lawyers and revenue officers and thousands of otherwise, self-respecting citizens who have no compunction in disregarding the mandates concerning alcoholic beverages. Other violations of law cannot suffice to excuse

similar offences on the part of doctors, but they, at least, suggest part of the underlying psychology basically responsible for the overprescription of alcohol for reasonable or unreasonable purposes. Many physicians have refrained from securing the necessary authorized prescription blanks in order to protect themselves against the importunings of patients, old and new, who find it difficult, in fact or theory, to give up drinking in connection with physical ailments, social intercourse or personal celebrations.

The integrity of the medical profession

is not to be impaired by the crimes of a few men. Its honesty and conscientiousness should not be questioned because a few individuals out of one hundred and fifty thousand have appeared to forsake a strict adherence to the spirit of the 18th Amendment. Without closing our eyes to the iniquities of a small number of individuals belonging to any of the professions, it is scarcely fair to brand such professions with the stigma of law breaking. The newspapers which have been most critical and quickest to impugn the sincerity of the medical profession are the first to hold journalism irresponsible for the derelictions in public duty of the occasional journal.

As the medical profession should protect its own reputation to the utmost, one might well ask what action is being taken by medical societies against any of their number proven guilty of violations of laws? Are medical societies ready and willing to remove from their lists the names of men held guilty of vicious, unnecessary and illegal transgressions of the laws involved in the prescription of alcoholic beverages? This is a severe test of professional sincerity, but it at least is a question which merits thought.

Potential ostracism by professional brethren is a powerful force for public good.

It is unfortunate that the law places the doling out of alcohol within the discretion of physicians. Even tho wines are available for religious purposes the real burden of controlling the alcohol habit rests upon medical men. Even the increase of home brewing and distilling, the hoarding of high-priced stocks of beverages will not suffice to free the profession from suspicion if our national experiment in an alcohol-free diet evidences few or many breaches of observance. The truth remains, however, that alcoholic indulgences *per se* are not a medical responsibility despite all efforts to create this impression.

Psychical Research.—The studies of Hyslop, the literature of Sir Oliver Lodge, the popularity of the Ouija board and the growth of numerous cults are indicative of a psychical unrest which has rapidly grown from mere interest in discarnate forms to a general impulsive seeking for communication with the dead. An appreciation of the psychology permitting the rapid growth of spiritism is of less consequence than a determination of the attitude to be held by the physicians on the subject of psychical research.

In the *Boston Medical and Surgical Journal*, June 10, 1920, Dr. J. W. Taylor discusses this subject with a frank assumption that, "medical men should realize the import of such influences and use their utmost power to combat such theories." From his point of view, a physician, by virtue of his scientific training, is expected "to protect his business, his own peculiar method of specialized industry, by which his intel-

lectual labor obtains its pecuniary reward." If this statement be correct, medicine is immediately relegated to commercialism. If the sole interest of physicians is the development of the financial aspects of their profession, irrespective of other great truths which may be developing, it scarcely merits the approval of intelligent persons who see in science a means to greater human happiness regardless of financial considerations.

The attitude of Dr. Taylor is in itself thoroly unscientific because it fails to recognize the great unexplored fields which pioneers are seeking to penetrate and which contain, undoubtedly, many elements that are to contribute to human welfare. His inability to grasp the potency of religion makes him a poor judge of the point of view which medical men should possess toward the realm of metaphysica, theology and religion. This is evident in the following quotation: "Just as priests and parsons are the mediators of a god and mankind, and develop a powerful organization for personal profit from the 'believers,' so the medium acts as the middleman between the 'spirit' and the message-seeker."

There is further evidence of failure to appreciate the ideals of professional service as is made clear by his statement that civilization, aiming at the increase of human happiness, may secure this object thru the attainment of "material comfort and prosperity." It is true that he admits that the "removal of ignorance and the growth of knowledge are, therefore, necessary to the development of happiness." His weakness lies in the belief that dogmatic religion "depraves morality, benumbs the mind of man and debases human nature." Without questioning his right to this belief, it may scarcely be regarded as a criterion of medical opinion on this subject.

A Scientific Attitude Toward Psychical Problems.—He is absolutely correct in demanding that the same methods of investigation should be applied in studying the unknown that are utilized in studying the known. But because science thus far has not demonstrated any dualistic nature of man, is no reason to believe that it may not be demonstrated in the future. The scientific attitude deserves support, but in making themselves "defenders of science" medical men do not assume an attitude of opposition to investigations hitherto localized in the world of faith.

The blindness of the profession to kernels of truth, around which have been built up large movements and cults, has been responsible for many of the accusations of conservatism, narrow-mindedness and professional jealousy which have undermined to some extent its reputation for liberal thinking, progressiveness and scientific attitudes. Physicians themselves daily make use of much that is comparatively unknown scientifically in their efforts to improve the welfare of their patients. How much is really known of many of the psychologic phases of current practice? Many of the drugs employed today probably have not much more value than some of the incantations, prayers and holy relics which the author deprecates. It is not a truly scientific attitude to assume alleged spiritualistic phenomena as "bunk or fake." Psychology and psychiatry may give a natural explanation of some of the unexplained spiritual phenomena, but only in their superficial elements.

It is hardly fitting in this age to manifest a closed mind on the ground that it is scientific. Langley's folly soars thru the skies. Jules Verne's fiction has become reality. The marvels in wireless telegraphy and

wireless telephony, and the belief in a fourth dimension are sufficiently striking in their trespass upon our imaginations to bid us be open-minded to all investigations, whether in fields that are known, or realms that are beyond our ken. In some ways it may be true, as Haeckel claimed, "where faith begins, science ends." There seems, however, a greater tendency to apply the methods of science to the world of faith, just as a greater faith is placed in science.

The attitude of the medical profession should indeed be scientific, but it must not be bereft of faith. Open-mindedness is a far greater advantage to human welfare than opposition to things that are unknown on the grounds that they are unscientific and tend to "impede progress, impair the mind of man, and subjugate his mentality to a parasitic class."

Sing Sing Reformed.—The humanitarian impulse manifested in modern penology is well exemplified in the efforts to construct prisons with a view to preserving the health of the inmates, and to affording opportunities for investigating the underlying reasons for their commitment. Society at last is beginning to recognize a new obligation to criminals and is attempting to understand the reasons for their maladjustment.

From the April issue of the *Sing Sing Bulletin*, one learns of the new \$6,000,000 prison which aims to be a model for the rest of the world. The medical concern in the humanizing of Sing Sing is not merely in the dormitory facilities or the opportunity that is to be given for vocational education. The principal medical interest will be the Clinic Building, which will

in reality be a structure dedicated to the scientific study and care of prisoners. No modern hospital will be better appurtenanced or provided with the accessories essential for diagnosis and treatment. X-ray apparatus, special examination rooms for the eye, ear, nose and throat, dental operating room, laboratories, psychologic and psychiatric examining rooms, museum, library, recording room, medical and surgical wards and all these features will be coordinated in the interest of the state, as reflected in a desire to appreciate and secure further knowledge of the numerous problems peculiar to a prison community. Under these circumstances, the punitive character of imprisonments really subordinated to an investigatory function.

As the *Bulletin* clearly indicates, the new Sing Sing is to serve as a classifying and distributing prison for convicted men. The arrival of a prisoner will not mark the beginning of his incarceration, but rather his introduction to a fine type of hospital, the studies of which will determine his future placement in the institution, best fitted for his physical and mental redemption. A careful clinical survey will be made of his characteristics thru all available means of physical, psychologic and psychiatric methods. If mental unsoundness exists, he will be transferred to an institution where he can secure the adequate scientific treatment. If physical disabilities are discovered, he will be sent to the type of penal institution best organized to cope with his individual problem. In Sing Sing there will remain only those best fitted to benefit by the industrial and custodial care there provided.

This measure of application of public health principles in institutional life must be hailed enthusiastically. The prisoner is

not to be deprived of his rights as a human being merely because of his failure to adjust himself to the world in which he lives. The time for irrational penology has passed. No longer does the "eye for an eye" theory of punishment obtain, nor is there a strong belief in the concept that segregation and imprisonment afford an adequate protection to the community. The end and aim of our penal policy with its probationary development and indeterminate sentence are to be found in the restitution of prisoners to lives of usefulness, respectability and civic reformation. Obviously, in order to rehabilitate the maladjusted in a community it is essential to be familiar with their physical, mental and moral characteristics and to attempt to grasp the significance of their interrelations.

Prison life in itself fails in its worth to the community when it lowers the vitality of prisoners, brutalizes them, reduces their self-respect and hinders the development of their latent potentialities. It is certain that the new Sing Sing is founded upon the belief that humane and scientific care of prisoners will make a strong impression upon criminals and evidence the interest of society in its efforts to re-establish them as free and independent men, capable of functioning in a decent, orderly and efficient manner.

The spirit of the Clinic Building at Sing Sing is to be the crystallization of the humane impulses pervading penology. Criminals are not merely to be regarded as violators of law, but as instruments in the hands of powers little understood. The determination of etiology and the removal of causative factors are fundamentals of present-day medicine, and penology in recognizing the advantage of this concept offers much to those who have not lost sight of

human frailty in the contemplation of crimes against person or property. Sing Sing reconstructed will be as great a medical institution as it will be an agency for assisting the State of New York to fulfil its obligations to those who find their way within prison walls.

Hospitalizing Drug Addicts.—When New York City began its experiment of opening a dispensary for drug addicts, it was believed that the number of victims of narcotics was tremendous. The institution of the narcotic dispensary was hailed with acclaim by a few, but was deprecated by most persons familiar with the complexity of meeting the problem in this particular manner.

While it is true that a hospital was soon opened for the withdrawal treatment, less than 30% of the addicts attending the clinic were willing to go to the hospital, even tho all expenses were borne by the city.

According to Dr. S. Dana Hubbard, *Public Health Reports*, March 6, 1920, "The dispensary in which narcotic drugs are given to addicts for self-administration is not the right way to deal with this problem." He further comments that the clinic practically resulted in no cure. He claims that all patients sent to the hospital were cured, "in the sense that the drug withdrawal left no physical need or craving." This statement is followed by, "quite a number of these cases relapsed after discharge, some returning to the clinic under assumed names."

The narcotic clinic is closed. The work of the hospital is practically ended. The problem of treating narcotic addicts still remains unsolved. Negatively, it has been

established that the dispensary is harmful in its effects, and its employment for narcotic addicts is unwarranted. Similarly, it is patent that the average addict does not voluntarily submit to institutional care for the withdrawal treatment, as long as it is possible to secure a supply of the drug. The hospital, moreover, has not demonstrated itself to be efficient in establishing a permanent cure for a large proportion of those willing to undergo the withdrawal treatment.

The weakness of the system apparently lies in the lack of facilities to secure the constructive after-cure which is so requisite for rehabilitating the addict. Even with a more advanced system of custodial care of longer duration, the problem remains unsolved when the individual breaks loose from his life of supervision, encouragement and control, and again undertakes to lead a normal life in the community. The after-cure of the addicts constitutes the real medical problem in narcotic addiction. The gradual withdrawal of the drug, the overcoming of the unpleasant symptoms arising from sudden deprivation, the building up of physical strength and nutrition, the psychiatric efforts at mental readjustment have not answered the question of permanent cure. Obviously, the personality of the addict is of paramount importance; and the alterations of mental mechanisms, that are essential to insure permanent cure, demand a form of after-care differing from the occasional type that thus far has proven insufficient for the permanent redemption of those afflicted with narcotic addiction.

All attempts to relegate narcotic addicts to hospitals and sanatoria lead to the same stopping point. What is to be done to and for the addict after the completion of his visit to the institution? It would appear to

be of immense importance to study this problem from the broadest point of view, to investigate the results of hospital care, particularly of those hospitals and sanatoria which advertise themselves as unusually successful in their management of addicts. The report of a cure based upon institutional treatment is unsatisfactory if it merely describes results attained at the time of leaving the institution. A follow-up system might well be applied to graduates of these institutions, in order to ascertain in how far they really are free at the end of six months, one year, and two years after severing relations with an institution that promised the cure for drug addiction. This is a problem that warrants thoughtful and practical investigation, such as has not been given by any committee of state or national organization. Admitting that the dispensary or ambulatory treatment is unsuccessful, what are the actual facts that promise encouragement to those advocating voluntary or mandatory commitment to a hospital?

The enactment of laws upon theoretic considerations, upon negative testimony, or uncorroborated statements is always hazardous, but it is particularly so when the condition that is to be attacked is as illusive and uncertain as that of drug addiction.

The Value of Fingers.—Under the caption of "minor surgery" are included many conditions which from a medical or surgical standpoint require comparatively simple treatment, with general assurances of a favorable outcome. When consideration is given to the effect of so-called minor disabilities upon industrial capability, one is immediately impressed with the fact that numerous so-called major operations are

far less significant to the future welfare of the individual than such handicaps as result from hand injuries.

The usefulness of the hands in all forms of labor, whether in industry or in the profession, scarcely needs comment. The impairment of manual function may be a major handicap sufficient to lower the potential earning capacity to an extent productive of economic dependence. The loss of a finger or two is not to be viewed as a simple injury, but deserves serious thought. Surgeons with excellent conservatism are endeavoring to lessen the necessity for amputation and aim to conserve every bit of flesh or other tissue that will lead to a better functional result. In fact, surgical procedures are being interpreted in terms of functional restorations rather than anatomic esthetics.

The New York State Industrial Committee in its *Bulletin* of March, 1920, presents the schedule that it is following in determining compensations for hand injury. The basis of their judgment depends upon the acceptance of a uniform rule to aid in determining the proportionate loss of use of the hand due to a lack of one or more of the fingers. Individual fingers possess different ratios of utility in hand work. The loss of the third and fourth fingers decreases the usefulness of the hand by 25%, while a lack of the first and second fingers decreases the per cent. of loss of use of the hand to 42%. A lack of the thumb and forefinger destroys 72% of hand usefulness. A lack of the four fingers still permits 10% of function to the hand. The loss of the first, second and third fingers is more serious than the loss of the first, second and fourth, or the first, third and fourth, while the sacrifice of the second, third and fourth is the least serious. The importance of the

thumb is evidenced by a greater loss of hand function in every instance where its removal is accompanied by the loss of any other finger, the handicap being increased thru the loss of the first finger as over against the other three.

These mathematical computations based upon experience are of vital importance in enabling an Industrial Commission to establish, with justice, compensations based upon functional disabilities and resultant decreases in earning capacity. Obviously, such schedules for determining the extent of functional handicap are for purposes of guidance and do not possess either mandatory characters or are they regarded as rigid in their application. Allowances must be adjusted on the basis of these injuries together with such complications as may exist in the nature of ankylosis, adherent scars, neuromas and similar post-operative conditions. The main value of statistical computations of this character lies in their affording a basis of judgment upon some concrete facts considered worthy of supporting economic adjustments. Were it possible to promulgate schedules for every conceivable injury there would be established a rational classification of handicaps in terms of effects upon specific functions.

In view of the attention now being given to this phase of compensation, there is a new importance to be attached to those forms of follow-up work in hospitals and dispensaries which aim to evaluate operative results in terms of functional capability. The movement in this direction is beginning to gain force and merits encouragement. It offers a new check upon operative ability, on the one hand, and affords numerous opportunities for determining weakness in procedure and technic which might improve the standard of operative treatment for various conditions. It will

cast much light upon the relative merits of radical and conservative surgery in the treatment of a large variety of accidents. It leads to a revaluation of surgery in terms of human economy and makes the operative results a problem of human potentials rather than one estimated in terms of primary union and specific types of operations. Proportionate loss of function is a worthy guide and criterion in measuring operative skill and in weighing the end results of the treatment. On this plane of investigation there would be a vast amount of information available as to what constitutes a "minor" injury.

Nationalized Medicine.—In the London letter published in the *Journal of American Medical Association*, June 19, 1920, appears the outline of a scheme for nationalizing medical service. A consultant council to the Minister of Health has presented a report indicating "the failure of the present organization of medicine to bring the advantages of medical science within reach of the people." With this perspective, a plan has been evolved which affords an expansive and elastic scheme of medical service open, tho not necessarily free, to all classes of the community.

The basis of this "revolutionary" program, of far greater value than the National Insurance Act, is the health center which is to afford a standardized system of attack upon medical problems, particularly from the standpoint of preventive medicine. In it all communal services are to be centralized. From it are to radiate all attacks upon health, whether dealing in preventive or curative medicine. A system of "secondary health centers" is to be developed in towns where an adequate equipment and personnel would be possible,

possibly centering around existing hospitals. These secondary centers are to be linked with the primary centers.

It is significant that in the scheme for the medical organization of Palestine on a national basis, a similar administrative plan has been devised, making use of health centers correlated in effort with hospitals and dispensaries. The nationalization of health facilities marks a long step in advance; and the fact that two experiments of this character are under way will afford an opportunity for comparison and supervision of accomplishments and methods, as applied to an advanced English-speaking community, and a country that is far behind the progress that is part of England's heritage.

The tendency to the centralization and nationalization of health opportunities is expressive of a consciousness of the need of a broader concept of public health, and a realization that the problems therein involved merit consideration on a communal basis. The growth of municipal health organizations bears witness to this natural growth of the public health idea, and well illustrates the tremendous gains that are made possible thru well-considered, centralized health administration. At the present time there are too many small sectors of public health being considered as independent units, whereas in reality they are but segments of the large circumference of human welfare.

While the tentative plan briefly detailed by the London correspondent is termed "revolutionary," in reality it is a natural outgrowth of the evolution of public health activity. The health of the individual is the basis and the health of the nation. The criterion of safety of the community is to be found in the protection of the population as individuals. Curative medicine and preventive medicine, representing retail and

wholesale methods, must be fused in a rational plan to conserve the communal health. Nationalization of health activities offers the most practical basis of community health service.

The Debt We Owe to Animals.—

We doubt very much if even medical men realize how important a part animals have played in the development of public health activities to their present point of efficiency in the prevention and control of many diseases. A recent address by Dr. E. C. Schroeder, Superintendent of the Bureau of the Experiment Station of the Department of Agriculture discusses this relative to the health of the people as well as their economic utility in general.

At the outset Dr. Schroeder points out that the Panama Canal would not have been built by this time if animal experimentation had not revealed the specific nature of yellow fever. If it had finally been constructed with no better knowledge of yellow fever than when the French abandoned the project after a cost of 20,000 lives, it would have deserved such a name as "The water lane of the yellow death."

Animal experimentation has provided vaccines, bacterins, and antitoxic serums; it has aided in the development of new methods of surgery and of reliable means of diagnosing infectious diseases; it taught us how to use gases during the war and how to defend our soldiery against them. In the absence of such knowledge the recent war would have cost additional thousands of lives and would have produced many additional thousands of cripples.

If animal experimentation had not taught us how to cure many diseases of the lower animals and how to suppress appallingly destructive live-stock plagues, the hunger and

starvation prevalent in some parts of the world would be practically universal. Experiments with animals have provided means for controlling human diseases like smallpox, Asiatic cholera, bubonic plague, malaria, typhus fever, etc., in addition to yellow fever already mentioned.

Animal experimentation has enabled the United States to exclude from the country, or to control, food-destroying diseases like rinderpest, foot-and-mouth disease, anthrax, Texas fever, hog cholera, surra, swine erysipelas, contagious pleuropneumonia of cattle, sheep scab, and the like.

Without abundant live stock—the result of animal-disease control—it is questionable whether food enough for the present population of the world could be produced. Live stock convert enormous quantities of grass, hay, and coarse vegetable matter, unfit for human stomachs, into easily digested nutritious food.

Because of the similarity between the human body and the higher animals, discoveries useful to stockmen and veterinarians are of service also to hygienists and physicians. Animal experimentation has resulted in the following basic knowledge: Circulation of the blood; capillary circulation; the vasomotor mechanism; functions of the nervous system; the flow of chyle in the lacteals; the passage of chyle thru the lymph ducts into the venous circulation; the nature of the digestive fluids and chemical transformation of food thru their action; functions of the liver, lungs, kidneys, and other organs; the reaction of the cells to various kinds of stimuli; significance of the endocrine glands; nature of inflammation and other pathologic processes; and numerous other discoveries in physiology, pathology, and biochemistry.

Experiments with live stock have contributed richly to the current knowledge of

drugs and their uses and to the precise information we have of the therapeutic, physiologic, and toxic actions of the innumerable substances from which our useful drugs have been selected.

Without specific knowledge of how drugs act on the body as a whole, or on special parts of the body, and whether their action is immediate or cumulative, the death rate among persons and animals would be multiplied, and the greater losses among the latter would be a serious economic disadvantage.

Animal experimentation has proved that the manifestations of tuberculosis in different portions of the body and in the bodies of different species of animals all have one essential cause; it proved that the disease is contagious; it led to the discovery of the tubercle bacillus; it proved that the bacillus is quickly destroyed by light, but may long remain alive and virulent in dark places; it proved that there are three types of tubercle bacilli, the human, the bovine, and the avian; it proved that the avian type is not an important cause of disease among mammals; it proved that the human type is the commoner cause of tuberculosis among human beings; it led to the discovery of tuberculin, without which, used as a diagnostic agent, the control and eradication of tuberculosis among feed-producing animals would be impossible.

Experiments with animals have given information that prevents untold suffering of both persons and animals by aiding in the preservation of health and hastening recovery from sickness. Persons who treat diseases among animals probably relieve more pain every day than animal experimentation causes in a score of years; and they do this thru the agency of knowledge that the experiments supplied.



Futurist Medicine.—After futurist poetry and painting, futurist medicine! It is a logical development, and one merely wonders why this manifest process did not come to light sooner. Painters, after many centuries of academic activity, discovered some years ago that color can be used not only to represent objects and scenes, but to reproduce sounds, smells, tastes, movements. Thus a painter today, in representing an onion, makes it not only look like an onion, but smell like one. He paints a presidential salute that not only impresses the eye, but bursts one's ear-drums. And now the secret of color, its dynamic power, its endless manifestations, have been discovered by the medical world. Color will cure disease. That is the announcement made by Dr. Dinshah B. Ghadiali at a recent session of the Allied Medical Association of America in New York. The simple logic is impressive and convincing. The light of the sun, according to Dr. Ghadiali, is composed of seven colors, and every element in creation shows a preponderance for one or more of these colors. The human body is built of these elements or colors; to be precise, 9.1 per cent. of the body is composed of hydrogen, 13.4 per cent. of carbon, 2.5 per cent. of nitrogen, and 72 per cent. of oxygen. The predominant color waves of these elements are respectively red, yellow, green and blue. Therefore, 97 per cent. of the human body is responsive to color waves, which have potency over their kindred elements. In good health the body colors are well balanced. Disease is nothing but a disturbance of this color balance. The cure of disease, therefore, is very simply and manifestly the restoration of this balance of color. Thus, a falling off in the necessary proportion of carbon in the body, with its evil results, can be remedied by applying the color yellow in discrete doses. A disturbance in the oxygen component could be assuaged by application of blue waves

to the afflicted body. The application, it is suggested, would be by means of drugs, which could be reduced to their color equivalents. Disease would be prescribed for in terms of color. Thus, a prescription of the near future will appear somewhat in this form: R—30,000 waves of green, with a little yellow vibration added. Or: R—25,000 waves of blue, 8,000 waves of red, and a dash of yellow. This would of course indicate an extreme case, as red, being a very great stimulant, must be used with the utmost caution and only in the most urgent circumstances and with due regard to the eighteenth amendment.

It is to be hoped that this futurist tendency in medicine will be better favored by fortune than the similar tendency in art and poetry. There does not seem much more logic in Dr. Ghadiali's theory than in that of the artistic experiment, which has never been accepted except in radical circles. To be sure, light and color play a greater part in life than is generally conceived. It is altogether possible that a vast new field may sooner or later be found in which they will prove highly potent. But Dr. Ghadiali's idea—for at best it is only a theory as yet—has not been carried sufficiently far to gain much credence. Until it has been thoroly tried out, it would be rash to pronounce judgment one way or the other. For the present all one may say is that it is interesting—if true.

The Acquittal of Dr. Laase.—It was with great satisfaction that the many friends of Dr. Christian F. J. Laase learned early this month of his acquittal in the U. S. District Court of an alleged violation of the Harrison anti-narcotic law. We who knew Dr. Laase expected no other outcome, for we never believed for an instant that a

man of his character and high principles had been guilty of any breach of good faith in the use or prescription of narcotics. To be sure, the character of the law is such that any busy physician is apt to make some error of omission or commission in keeping his records, or thru misunderstanding commit some technical violation of the act. We have always felt that the law placed too great restrictions on the legitimate rights of an honorable profession. But the time to protest was before the law passed, not now. There is nothing to do now but to obey its mandates as earnest law-abiding citizens, using every care and effort to avoid any mistakes.

In its fundamental intent and purpose, the Harrison law—and the New York State law as well—deserves every commendation. The pernicious and illegitimate use of narcotics, and their wrongful and unscrupulous sale, could not be tolerated any longer. No honest physician can take any other position. But in framing these essential laws, those responsible for them, penalized the whole medical profession for the deeds of a few of its unscrupulous members, by imposing unnecessary restrictions and hardships on honest, self-respecting physicians, who had never misused narcotics, and never would.

This is our only complaint, that these laws are unfair to the great body of honorable physicians, in that they leave too little to the knowledge, honest intentions and good faith of honest practitioners of medicine.

But inasmuch as the law is an established fact there is only one course for the self-respecting doctor to pursue and that is to conform to the law to the best of his ability.

If he does make an error, or his memory leads him to fail to carry out the letter of the law in some particular we do not believe he has much to fear from the ultimate result so long as he has not been guilty of some wilful violation, or some breach of good faith as a practitioner of medicine. If he is conscious he has made a mistake, or has failed to fulfil some obligation under the laws he should take steps at once to explain his position to the proper authorities and rectify his error of omission or commission. We believe he will find the authorities ready to meet him in the same spirit he shows in going to them.

Finally, the outcome of Dr. Laase's case exemplifies what we have previously stated that the physician who is honest, faithful to himself and his calling, and a man whose reputation is as clean and honorable as Dr. Laase's always has been, need have little fear of the ultimate result of any trial under these anti-narcotic laws. It is too bad, however, that there is not some provision under these laws for a private and preliminary review of any accusation against physicians in good standing without forcing them to undergo the mental anxiety, terrible expense and other consequences caused by public indictment and trial. To this some one might say that a physician should have no different treatment under these laws than any other citizen. But since these laws, in part at least, are directed against certain acts of physicians which they perform as a special right under state licensure, it would seem that any law regulating or abridging such rights could properly carry provisions for a preliminary review of any presumed violation.

Then again no law can justly inflict special or extraordinary punishment on any particular class of individuals, but this is just what public indictment and trial under these anti-narcotic laws do in effect to physicians, and this in spite of the fact that they may be absolutely innocent of any wrong doing.

One more thing and we are done. Not all officials are equally endowed with good judgment and sympathetic consideration. Some men when vested with authority have been known to let personal enmity dictate their acts. Happily these constitute a very small minority, and a great majority of the officials we have met are fine men who aim to be kind and considerate in all their acts. But there are just enough of the other type to provide one more argument for a competent committee or board of review of every accusation or charge of violating the narcotic laws made against duly licensed physicians.

In congratulating Dr. Laase on the happy result of his trial, we wish to express to him our heartfelt regret for all that he has been forced to suffer during the long months between his indictment and acquittal. To a man of gentle personality, sensitive nature and the self-respect that goes with a knowledge of his honest desires and purpose.

the experience he has passed thru must have been soul trying. But "All's well that ends well," and in the joy of his acquittal we hope Dr. Laase will be able to forget the anguish of the anxious days and go forward to new happiness and the successes we know he is capable of achieving.

Good luck, good friend, may all that you hope for and aspire to come to you in fullest measure. Finally, may the immediate future hold that which will abundantly recompense you for all that the immediate past has cost you.

The articles in this issue are probably as noteworthy as will appear in any medical journal for July. We do not say this in a bombastic spirit nor with a desire to make invidious comparisons. But the words which a medical friend expressed to us a few days ago led us to study our original articles for the past three months from a little different standpoint. "Your original articles," he said, "are the most interesting and readable I find in any medical journal. I always find one or two at the very least that give me a new angle on the subject treated. They are not ultra-scientific, but they are very evidently written by men who know what they are writing about. I do not want to be extravagant in my approbation, but it is the diversity of topics of your contributed articles, their sound, common sense character, their wealth of interest and the wide distribution of the authors with their varied viewpoints that make me look forward to every issue of your journal with the liveliest anticipation."

Such a statement is indeed gratifying. We have tried to make our original article department a worthy one and we have been greatly favored by the splendid quality of the papers received. That our medical friend has measured our aims so accurately shows we have builded better than we realized.

Few will deny that this issue contains an excellent group of papers. Every one of them is a valuable and interesting contribution to the subject discussed, and every one of them is thought-inspiring.

We esteem it a privilege to be able to present each and every one of these articles to our readers. The man who cannot find one or more of special value to himself is hard indeed to please.

He Made the World Safer for Mankind.—Sad indeed was the news received on July 4th, that General Gorgas, the world's foremost sanitarian had died in London as a result of cerebral apoplexy. About May 19th, General Gorgas accompanied by Mrs. Gorgas came to London and was received with conspicuous honors by King George and the English people. The work of this great American sanitarian appealed to those who knew what he had accomplished, for instance, in that onetime plague spot of the world, the Isthmus of Panama. The English race admire men of achievement, and welcomed the opportunity of paying its respect to this man who had done so much for humanity.

It is easy to imagine the satisfaction it must have been to General Gorgas, humble and modest a man as he was, and always has been, to have a great nation like the English place so high an estimate on his life work. Too often such recognition is never given until the Grim Reaper has come and gone. It will ever be a matter of the deepest satisfaction to General Gorgas' colleagues and the countless thousands of his countrymen who appreciate the true worth of the services he has rendered in the conflict with communicable disease, that he received in such generous degree the sincere and heartfelt gratitude of his fellowmen.

But not for long was General Gorgas destined to enjoy the decorations, honorary degrees and other material expressions of gratitude of those who sought to pay him the honors that were his due. Within two weeks, General Gorgas was stricken with apoplexy. At first, hopes were entertained for his recovery. He seemed to rally, but his improvement was only temporary, and on July fourth he passed away in the sixty-sixth year of his age.

The death of General Gorgas is more than a national loss, it is an international calamity.

The effects of his work were not limited to his own country, altho, of course, America profited greatly by his administration of health affairs at Panama and later his labors as Surgeon-General of the U. S. Army during the critical period of the Great War. Other nations realizing the great ability of America's famous sanitarian, were quick to seek his advice and

aid, and the results he achieved in South Africa and in South America are known the world over. Every civilized country received benefits which will be more and more apparent as the years go by. In fact, with all that General Gorgas accomplished which has already borne fruit, a large amount of his latter day activities cannot be expected to make their influence felt to the utmost for several years. This is only natural in connection with diseases and epidemics that have periodical occurrences. But as the years unfold the quality of General Gorgas work will be seen in full measure, and civilized people will come to know how much they owe to the knowledge and scientific attainments of this far-seeing American physician.

Truly the world has suffered a grievous loss in his death, for he was a true friend of all humanity. How well he loved his fellowmen was reflected in his devotion to their needs. Never was he unmindful of their afflictions, and never did he falter in his zeal to crush out the forces arrayed against the public health.

General Gorgas' life was dedicated to medicine, but there never was a better soldier. The battles he fought and won with the forces of disease are not written on history's pages, but they are recorded none the less surely in the minds of men by a knowledge of the sorrow and suffering he has helped to avert, the countless lives he has helped to save, and the fact that the world is a safer and better place to live in as a result of his labors.

What finer tribute can be paid to this man whose life was given so faithfully to the service of his fellowmen than the simple words he made the world safer and better for all mankind.

The Middle Class Worm Turns.—Several months ago, in these columns, we called attention to the fact, at that time still obscure, that the large, silent, long-suffering middle class was beginning to show signs of restiveness in its rôle of shuttlecock in the greedy game the upper and lower classes were playing against each other. This restiveness has now broken forth in a manner to confound both workers and employees. In the struggle of the latter against each other, resulting in the mounting of both

wages and prices, it was always the middle classes who paid—the professionals, the artists, the teachers. The worker gained nothing. His wages doubled, but he had to pay twice as much for the necessities of life. And the employer lost nothing. If he increased wages, he made up by increasing the price of the article he manufactured. But it was the middle class which was ground between the two. Their incomes remained practically stationary, their living expenses doubled. From 1914 until recently they bore the brunt of every strike, every contest between capital and labor. They bore it in silence. This huge class has no voice, it has no spokesman, no union. It is inarticulate. But when it finally stirred it created havoc. The situation thruout the country was frankly grave. Prices tumbled everywhere when the huge middle class decided that it would not buy until they did tumble. If prices had kept at the point to which they fell wages must have come down. Employers could not sell at those prices and pay the enormous wages they have been paying since the war. Would the workers accept a cut in their wages? Most certainly not. And there can be but one issue. The American Woolen Mills have announced the shutting down of their vast factories and the dismissal of their workmen for an indefinite period. This is but a beginning. We fear others will follow. Herein we have the beginnings of a situation for which there is but one word in our language, a word one hesitates to use—panic. We can only hope that such a situation, such a calamity, will not arise. This time it is the fault of the workers as well as of the owning classes. Both have been greedy, conscienceless, visionless in their demands. They have thought only of themselves, have given no consideration to the vast middle class which is the backbone of every social structure. And ignoring this class has always had its penalties. Once it comes to a consciousness of itself, once it awakens to the injustice it has suffered, it exacts the utmost penalty from its persecutors. And it is waking up now, not only in the United States, but all over the world. What is happening here now, will repeat itself soon in Italy. The middle classes there have organized a non-Buying League, pledged not to purchase clothing and other articles until prices have come down. Em-

ployers and employees in Italy will feel the pinch soon, for the middle class once organized by a common sentiment is all-powerful. France is on the verge of a similar crisis, prices in that country having soared beyond all reason. It is amazing how little is learned from history. In our poor way we tried several months ago to draw attention to the lesson of history. We warned against the aimless contest between workers and employers, a contest which profited neither and which merely alienated the vast middle class. Now the fruitlessness of this contest becomes apparent—not too late one can but hope. There is still time for wise counsel and conduct.

The *N. Y. Sun* optimistically predicts a permanent fall in prices, but it will never come until the American people are willing to give up the scramble to enrich themselves at the expense of each other.

Railroads and Health.—The health of the nation is intimately related to the transportation system. We saw during the influenza epidemics how the disease followed the railroad lines. On the other hand, the moment a railroad tie-up threatens our food, and especially our milk supply, we realize how vitally important these arteries are to the health of the American people.

Congested traffic conditions have brought to light a new and serious menace to the health of the nation. On July 20 the Public Health Service announced from Washington that the water supply of 30,000,000 city residents was in imminent danger of becoming disease infected because of the impossibility of obtaining the necessary purifying chemicals. Emergency appeals for railroad priorities on alum and chlorine were received from the boards of health of ten states and numerous cities by the national health officials. One of the largest chemical factories of the country reported that they had received only eight cars of raw material in a month, whereas their requirements are 120 cars.

It is not enough for the average American citizen to blame the railroad executives or the employees for labor difficulties; it is his duty thoroly to inform himself on the merits of the controversy so that a truly

enlightened public opinion can force a sound and just solution which will restore efficient, uninterrupted railroad service.

Governor Smith's Wise Vetoes.—Governor Alfred E. Smith, of New York, has to his credit a series of vetoes which deserve the heartiest commendation. The less said about the legislature that recently adjourned the better. That pernicious influences were active is generally believed. It is appalling to contemplate what might have happened if a less intelligent and less courageous governor had been in the chair.

Not the least commendable of his vetoes was that which killed the bill proposing to license chiropractors in New York State. This bill provided in effect that the power of licensing should rest in the hands of the State Chiropractors' Society. Membership for a year in the society and the recommendation of the board of examiners to be appointed by the organization were the only requirements to secure a license.

The Medical Society of the County of New York expressed the feeling of the entire profession when they passed resolutions commending Governor Smith's action.

The Growing Use of Goat's Milk.—The only goat milk condensery in the world is located at Pescadero, San Mateo County, Cal., according to the annual report of the California Development Board. A herd of six thousand milk goats is maintained by the Widemann Goat Milk Laboratories at Pescadero, which is forty-five miles south of San Francisco.

The report states that the demand for canned milk for tuberculous patients far exceeds the supply, goat milk having been found a particularly valuable nutrient for consumptives.

The number of milch goats in California has increased fifty per cent. in the last two years. A large farm at Cool, Eldorado County, was recently stocked with milk goats, the production of which is to be used exclusively in the manufacture of goat milk cheese. That goat's milk is exceptionally rich in vitamins undoubtedly accounts for its growing popularity for food purposes.

especially when high nutritive value is desired.

Paresis Not A Handicap.—A man reputed to be worth \$30,000,000 should not have much difficulty in adding a few millions to it. The recent report of the millionaire who made \$2,000,000 out of business deals while an inmate of Riverdale Sanitarium for fifty-one days is open to misconstruction. There is no conclusive evidence of extraordinary business acumen. Money can't help making money nowadays.

The patient is suffering with paresis. Alienists said he was "domineering, hysterical and suffering from emotional outbursts." One would almost suspect there might be other successful business men suffering from paresis. Certainly the combination of price-cutting and profiteering which exists in the business world today suggests that business itself is suffering from paresis and that labor also may have an incipient ailment of the same sort.

A National Experiment.—The high cost of whiskey put an end to the tests made recently by the Medical Research Committee on the influence of alcohol on manual work and neuromuscular coordination as revealed by the use of the typewriter.

With the lid being clamped daily tighter and tighter such tests are becoming anachronistic; it is like studying the effects of the hoop skirt on the congestion problem in the subway.

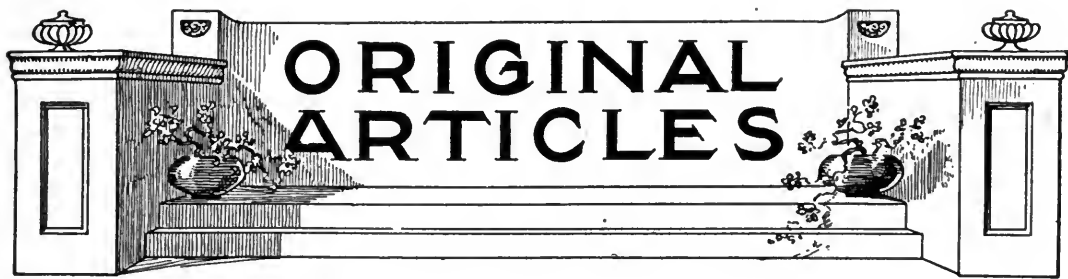
There is another sort of scientific observation, however, which is timely; physicians everywhere are urged to make a careful study of the effects of prohibition in their localities, both as to those persons who simply refrain thru necessity from drinking liquor and as to those who make efforts of various sorts to secure a "compensatory" stimulus whether in the form of homebrew or drugs. There is also to be observed the effects of a decreased supply of whiskey on the health of the public in general. In fact, a writer in the *Journal of Laboratory and Chemical Medicine* points out, the prohibition enactment constitutes the biggest

physiologic and psychologic experiment ever made. Instead of rabbits and guinea pigs, the experiment is being made on 110,000,000 human beings.

A Police Hospital.—The proposal to raise funds for a hospital in Brooklyn especially for policemen and the members of their families will meet with hearty approval and support of the people of New York City. Every city in the country owes infinitely more to its policemen than any city budget allows them to pay in the form of salaries. The exposed and arduous life which the policeman leads often incapacitates him for duty, and the pension system rarely if ever adequately compensates him and his family when sickness comes. It almost invariably happens that his family's living standard is forced down. Pulmonary diseases, rheumatism, fallen arches and various nervous ills are particularly common to men in the police department.

The new project is to institute a campaign to raise \$5,000,000. The site, building and equipment will cost about \$3,300,000 and the balance will be used for endowment. The fund will furnish about \$100,000 yearly, while \$250,000 will be required to maintain the hospital and staff. The balance will be made up by the proceeds from police field days, band concerts and other forms of entertainment. In announcing the plan, Special Deputy Police Commissioner T. Coleman du Pont gives the names of many of the most prominent citizens of the city who are interested as officers or directors. Among them are Elbert H. Gary, Col. Jefferson de Mont Thompson, Herman A. Metz, Charles Thorley, Henry W. Dearborn, Vincent Astor, B. G. Collier, Joseph P. Day, S. R. Guggenheim, Victor J. Dowling, Allan A. Ryan and Dr. John A. Harriess.

Commissioner du Pont's figures show that there are 11,000 men in the department, and 4,000 on the retired list, making a police population of 60,000 for the Greater City. Brooklyn is chosen as having the largest portion of this police population and because a suitable building site can be secured for a better price there than in Manhattan.



PLANS FOR REORGANIZING THE MEDICAL DEPARTMENT OF THE ARMY¹.

BY

MERRITTE W. IRELAND, M. D.,
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Conditions have changed in the medical profession, as they have in all the other walks of life. Thirty years ago a commission as first lieutenant in the Medical Corps was much sought after and it was a difficult matter for those who desired to enter the Corps to secure appointments on account of the lack of vacancies. At that time the Corps consisted of 125 officers and the pay given a medical officer was quite sufficient to keep him and his family in comfort. It is not necessary for me to tell of the changes which have taken place during these years, but today we have a Medical Corps of 1,550 men. The cost of living has increased tremendously, however, while the pay of the medical officer has been increased comparatively little. At the same time the opportunities for medical men in civil life have been multiplied many times, so that the young man graduating from college has all sorts of prospects presented to

him besides going to a country town to wait for a practice to come his way.

As a result of the changes which have taken place during these years, it has become more and more difficult to secure a sufficient number of candidates to fill the vacancies in the Medical Corps. Today there are 730 vacancies and if we are going to have an efficient service it is necessary that we should begin to fill these vacancies at once. Of course we have got to overcome by legislation some of the conditions which prevent men from coming into the Corps. This can be done by giving more rapid promotion.

It is our desire, and an effort is being made, to give a medical officer a captaincy after three years' service and a majority after twelve years' service. It is believed that such legislation will be enacted during the present session of Congress. The lieutenant-colonelcy and colonelcy will come after a certain number of years' service, probably twenty and twenty-six, respectively. This legislation would greatly improve the prospect of the young men coming into the service. Professional service with the Government can never be paid for on the same basis as equally efficient service in civil life, but there are many attractions in the army which do not pertain to civil practice. A medical officer has an opportunity to follow the line of work he prefers. He

¹Read at the 51st Annual Meeting of the American Medical Editors' Association, New Orleans, April, 1920.

is not harassed by the financial problem that the man in civil life must meet and his pension during old age is insured. After a medical officer has been in the government service for a quarter of a century, his status is very acceptable, as compared with teachers in our universities, for example. The remuneration of the officers in charge of the medical and surgical services and the laboratories in our large hospitals compares very favorably with the full-time professors in our medical schools.

We are going to make tremendous efforts to induce the young physician to consider the army as a career. We now have the authority of the War Department to take young men from high class schools into our hospitals and to give them their internship in these. At the same time we will give them enough compensation to do a great deal more than serve as pin money. If they make good as internes they will be given a commission as a first lieutenant in the Medical Department. It seems to me that this should be a splendid inducement for young men who would like the army as a career.

We are going to send officers of the Medical Corps to our medical centers to interview students and to present to them the attractions of the public service. We are also going to have our officers canvass the different hospitals to secure the interest of internes who are completing their work, and we are going to make a great effort to get in touch with state examining boards so that they can present the attractions of the service to men taking their examinations. Thru these methods we trust we can recruit the Corps and can fill many of the 730 vacancies which exist today. In this work we ask your cooperation. The Medical Corps of the army is just a small

part of the medical profession, consisting of a group of medical men who have taken up a special line of work. We believe we have accomplished enough in the past to warrant your sympathy and support, and we earnestly trust you will give them to us.

REORGANIZATION OF THE MEDICAL RESERVE AS A PREPAREDNESS MEASURE.

Another and a very important item of more than passing interest to you, gentlemen, and in furthering the development of which your editorial support would be greatly appreciated, is the upbuilding of an adequate Medical Reserve. To successfully prosecute a war with a first-class power in the defense of our national principles there must be called to the colors the entire man-power of the nation. In a war of any magnitude the Medical Department of the army alone, to say nothing of the needs of the navy and of the Public Health Service, would require a speedy increment of 50,000 medical officers. This large number would have to be enrolled from the ranks of the civil profession at large.

With less than 2,000 medical officers normally authorized for the regular army in time of peace it will be seen that our main reliance—the very backbone—of military medical preparedness today reposes exclusively in and with potential medical officers who, during times of peace, are engaged in civil pursuits. Under the old order of things the majority of the medical officers who were called upon to participate in the World War had devoted little if any thought to the important rôle they were destined to play in that great drama. As a measure of general preparedness it is eminently desirable that every able-bodied and properly

qualified physician and surgeon in the country today be enrolled in the Reserve and classified as to the duties for which he is particularly fitted should his services be needed—as they most assuredly will be—in time of war. This problem is now engaging our careful attention.

We are free to confess that the organization of the Medical Reserve Corps in the past has not been all that it should be. A faithful attempt will be made to remedy past defects and in consonance with the lessons learned, to reorganize the Reserve on attractive, progressive and equitable lines. In time of war we must have an adequate force of medical officers. If they cannot be obtained by voluntary enrollment, conscription becomes unavoidable. Of course even in war we owe and must meet a duty to the civil population. Sickness and injury among the women, the children, the aged and the infirm still continues and the needy must not be deprived of a reasonable apportionment of professional services. But with that need met every other man available will be required in the military service. Facing this, we maintain and ask your cordial indorsement of the dictum that it is the national duty of every medical man in civil practice who meets the requirements established by law regulations, to become affiliated in time of peace with either the Reserve of the army, the navy, the Public Health Service, or the National Guard, in order that he may prepare himself to meet the obligations so sure to devolve upon him when the nation is called to arms.

Before we can build a military machine capable of withstanding the rigors of war we must first obtain the requisite material. Medical men are very important cogs in this machinery. Today we lack many of these essential parts. Our Reserve list is

woefully small. So far about 6,000 medical men have accepted commissions and there are about 2,500 additional applicants whose cases are now being considered by the War Department. Some 30,000 saw service during the World War. It is quite evident that some of those who were officers of the Medical Reserve Corps prior to the war do not realize that when they were recently discharged from the army they completely severed their connection with it, having automatically vacated their Reserve commission during the war period. In other words, their old commissions are no longer in force and to re-establish their identity and association with the Reserve they should apply to the Adjutant-General of the Army for reappointment.

It is hoped that in time many more of these experienced men will join the Reserve. Just at present their chief concern seems to be concentrated on overcoming the difficulties incident to re-establishment of their civil practice. To many this has not been an easy task. The general public seems fickle and only too prone to forget the great sacrifices made by these medical men who in response to the call of the nation relinquished remunerative practices to which they had devoted years in building. But war always has and probably always will entail great sacrifices—national, community and individual. In defense of his home, liberty and the pursuit of happiness, service in war becomes a moral duty which no man may shrink. When the reservist aligns himself with us in facing this national duty we shall strive as far as possible to safeguard his interests in order that the sacrifices he has to make may be minimized as far as possible. As for service in the Reserve in time of peace, it shall always be our endeavor to avoid any exactions

which would be the cause of any sacrifice in a financial or other way on the part of the reservist.

In the proposed reorganization of a Medical Reserve for the army, it is our desire to pattern the basic structure very much on that prescribed for the regular establishment. We deem it particularly important that the Reserve medical officer be assured of a definite place on the Reserve list and rewarded suitably for long and faithful service on it. In other words, promotion in the future must not be handed out in a haphazard manner. After the initial adjustment and a recognition of past services, particularly during the World War, have been effected each officer appointed in the Medical Reserve must be required to enter in the lowest grade—*i. e.*, first lieutenant—and subsequently enjoy promotion only according to his relative position on that list.

The basis for equitable promotion will depend largely upon the outcome of provisions appearing in Army Reorganization Bills now being considered by the Senate and House. For example, if the Senate Bill becomes a law, medical officers of the regular establishment will be promoted to the grade of captain upon three years' service, to major upon fourteen years' service, to lieutenant-colonel upon twenty years' service, and to colonel upon twenty-six years of service. Altho it would not quite meet the special requirements in a Reserve, for the reason mentioned below, it may become necessary to apply the same scheme for promotion to the Medical Reserve. On that basis, a young physician joining the Reserve today as a first lieutenant would, after fourteen years of service on the Reserve list, irrespective of whether he had had any active duty during that period, find

himself among the majors on that list. Twelve years after obtaining his majority he would be promoted to the grade of colonel. However, the scheme of promotion most applicable to the Reserve and giving greater promise of meeting the special requirements is one based upon a proportionate distribution in the various grades authorized under the law, such as we now have for the Regular Corps. The present law provides that we shall have 3.16 per cent. colonels, 5.42 per cent. lieutenant-colonels, 23.7 per cent. majors, 67.72 per cent. captains and lieutenants. As all calls on the Reserve for service will depend largely upon the needs as exhibited in approved Tables of Organization, a definite proportion in the various grades authorized is infinitely preferable if a well-balanced Reserve is to be maintained. If promotion in the Reserve after certain years of service is adopted, it will be seen that this proportion in grades will be greatly disturbed from time to time. Should we have too many men commissioned in the higher grades, there might be some difficulty in finding for them a place in Tables of Organization which would permit of their immediate call to active duty in any national emergency. Under the proportionate grade scheme, as recently outlined by Colonels Wadhams and Tuttle in an article published in the *Journal of the American Medical Association*, I am confident that the Reserve officer would enjoy a very reasonable and satisfactory flow of promotion.

In any scheme of promotion adopted it is extremely important that the medical man be given an equal chance for promotion with all others on the list. Favoritism should not be countenanced. Proficiency alone should be the deciding factor for the reten-

tion of a man on that list. The inefficient should be eliminated.

Having built up a Reserve satisfactory in numbers, we must then proceed to classify each man according to his special qualifications, in order that he may be assigned to duty when called to the colors in the position for which his experience in civil practice and training has particularly fitted him. Proper classification in peace times will enable us to avoid in future wars what we thru necessity had to do in the World War, and that was attempting to fit square pegs in round holes.

After adjustments in rank and classification have been made we desire that there be published annually a complete register of the Medical Reserve, showing the name, record, etc., of every man enrolled therein. This will serve as an exhibit of our resources and as a ready reference guide. Some training should be required of every reservist, particularly the young man just out of medical school. This will occupy three phases: 1st, the basic training in general military principles, including the organization and uses of all Medical Department units and paraphernalia, at our proposed Medical Department Field Service School soon to be established; 2nd, courses in specialties closely connected with military medicine and surgery to be given at the professional center now in process of being established at the Walter Reed Hospital at Washington; 3rd, training with troops at the camps during summer maneuvers, etc. All those who have not previously had military service will be required to take the first course. The second and third courses will be elective and depend largely upon the duty to be performed by the medical officer when called into active service.

Then the life of the army doctor has changed very materially in the last few years. The small post has disappeared and Indian campaigns are a thing of the past. From now on the army doctors will be stationed in general hospitals, large divisional camps, or very large military posts. The day of the specialist has arrived in the Medical Department of the army, as it has in civil life. In other words, from now on the service in the army will, to a considerable extent, be the same as the group practice which is growing so popular in civil life.

RESERVE HOSPITALS.

One other important feature of medical preparedness that we must almost exclusively allocate to the Reserve is the formation at the larger medical college and hospital centers thruout the United States of a goodly number of Base, Evacuation and Mobile Hospitals, for use only in time of war. It will be recalled that the first units of the U. S. Army dispatched overseas after the declaration of war on April 6, 1917, were Base Hospitals that had been organized under Red Cross auspices. That we were able to meet a call for these units so promptly was a fine demonstration of the far-sighted preparedness originally sponsored by men like Crile and Connell, and intensively developed by General Kean, who, during the organization of these units, was director of the Department of Military Relief of the American Red Cross. We particularly desire to perpetuate a system of proven worth so auspiciously begun. We cannot have too many of these units organized and available for immediate call. Proper classification as to the qualifications of our Reserve personnel in the larger cen-

ters will greatly facilitate the organization of these units.

We will now leave the subject of personnel to discuss some of the more important medical department institutions.

THE SURGEON GENERAL'S LIBRARY.

The Surgeon General's Library was started during the Civil War. Colonel Billings, the father of this library, had the vision to see the great importance to the profession of the United States of a library which contained so far as possible all medical literature extant. Its growth had been steady and rapid. Today it is the largest medical library in the world, except the medical library in Paris, and it is believed that, in many ways, it is the most *complete* medical library in the world.

At present the Surgeon General's Library is located at the corner of Seventh and B Streets, Washington, D. C., in a semi-fireproof building. This does not contain the necessary facilities for professional study. Anyone who wishes to consult this library must take the books and go elsewhere, for the building is not large enough to supply numerous rooms where research can be carried on. If it should be destroyed by fire, none of us would ever be able to explain why a library of such value was housed in anything but an absolutely up-to-date fireproof building.

THE ARMY MEDICAL MUSEUM.

The Army Medical Museum was also started during the Civil War by far-seeing professional men. It, today, is very complete in many respects and contains some very valuable collections. It probably contains the largest collection of bone injuries

of any museum in the world. It has been the repository of rare specimens from the army, and from many sources in civil life, for the last fifty years. Just as soon as we entered the World War, adequate provision was made for securing specimens to add to our collection. Our success in this endeavor was good and we have now in course of preparation thousands of specimens brought to the museum from France.

It is housed in the same building with the Surgeon General's Library. The present space is not half sufficient for a museum of this size.

Aside from other reasons for moving therein, the building, which houses the Surgeon General's Library and the Museum, has been condemned by the Fine Arts Commission as not in harmony with the style of building which this Commission desires to erect in the Mall and, sooner or later, a new home must be found.

ARMY MEDICAL SCHOOL.

Surgeon General Hammond recognized the need of an Army Medical School during the Civil War and, in one of his annual reports, called the attention of the Secretary of War to this need. It was left, however, for Surgeon General Sternberg to organize the school in 1893, thirty years after Hammond had recommended it.

At first the school was located in the Library and Museum Building already mentioned, and Walter Reed, who was then preparing himself for the stupendous task which was to fall on his shoulders in later years, was one of the first teachers in this school. The school remained at its first location until the students could no longer be accommodated in the limited space, when

it was removed to a larger building on 13th Street. It remained here until it outgrew its second home and was then removed to Louisiana Avenue, where it is now located. This building is not adapted to school purposes and the Medical Department has labored under serious handicap for years, due to lack of facilities to carry on school work.

THE SURGEON GENERAL'S LABORATORY.

The Surgeon General's Laboratory has always been a part of the Army Medical School and it has been in this laboratory where a great part of the experimental laboratory work of the army has been carried on and where the sera which have protected the army from typhoid and paratyphoid have been prepared.

WALTER REED HOSPITAL.

In 1904 an appropriation was obtained to purchase the site for a general hospital in the District of Columbia and authorization was given to begin the construction of this hospital. Under the provisions of this act, land was purchased north of the city and an administration building, with something like seventy-five beds, was constructed. The hospital was named Walter Reed Hospital in memory of the member of the Medical Corps whose discovery of the mode of transmission of yellow fever made it possible to eradicate the disease from Cuba and also made possible the construction of the Panama Canal.

The construction of this hospital has met with many difficulties. It has been most difficult to secure appropriations. Today we have room for only 165 patients in the permanent buildings. During the war numerous temporary buildings were con-

structed on the grounds and additional ground was purchased. We now have seventy-four acres of ground in this plot and we have the necessary money to purchase approximately twenty-six acres more.

This hospital, of course, will never fulfil its mission until it is completed in every respect. The temporary buildings, constructed in great haste during the war emergency, have served for the care of the soldiers from the World War, but it is necessary to have many additional buildings to complete our plant.

It has been apparent to all of us, and was in General O'Reilly's vision during the time he was Surgeon General, that all of the activities of the Medical Department which have been mentioned, should be removed to Walter Reed Hospital. In November, 1918, I laid this plan before the present Secretary of War, who listened with great interest and promptly gave his approval to the scheme and assured me that he would put his shoulder to the wheel and assist in this great undertaking. Authority was immediately given to purchase the land necessary, but the armistice was signed at such an early date that it became impracticable to use the money appropriated for the emergency to buy additional ground. The appropriation, however, was finally secured from Congress and the purchase of the land is now well under way.

It is estimated that it will cost approximately twelve million dollars to move all of our activities to this center—library, school, museum and laboratory. Congress has already allowed, in the army appropriation bill now under consideration in the House, one-half million dollars to begin the construction of the Army Medical School and just as soon as the present financial stringency is over, it is believed further

funds can be secured to carry on this work. Additions can be made to the present permanent buildings at Walter Reed from time to time from the current appropriations, and in the future it will be comparatively easy to get a sufficiently large appropriation to construct separate buildings for the Surgeon General's Library and for the Army Medical Museum on these grounds.

The final vision is to have a hospital center which will take care of all the special cases in the army from the eastern part of the United States. Barracks will be built for the teachers and for the students at the Army Medical School, so they can remain on the grounds. We desire to have a model service in every respect for the different specialties of medicine and surgery and we particularly desire to have a model training school for nurses.

The dream of this splendid hospital center is for the future, but no department can live and make suitable progress without having plans laid far in advance. When this center is completed we will have the Hospital, with all its facilities, the Army Medical School, the Surgeon General's Library and the Museum all together for the teaching of our young doctors and dentists and veterinarians. It will be a post-graduate school, where medical officers can be returned for special work, and it will be a school where we can, with propriety, make provision for many men of the Medical Officers' Reserve Corps to take up special work which would be of great value to them if called into active service. The laboratory can be greatly enlarged so that more and more research work can be carried on. To this hospital center we can invite the great teachers from civil life to assist us in carrying on the very important work of teaching progressive medicine.

FIELD TRAINING CENTER.

The center at Walter Reed will act as a technical training school for officers of the Medical Department, but in addition to that we must have a field training center where new officers can be made familiar with the implements they will use when they are called into active service and sent into the field.

We have made application for an army post to convert into a medical field training school, but the War Department has not yet seen fit to assign us one. I am sure such an assignment will be made within the next year.

At this school we will have all the sanitary appliances on exhibit which we use in the field. We can have evacuation hospitals, mobile hospitals, field hospitals and sanitary trains. This will enable the Reserve Corps officer to see first-hand exactly the implements he will be required to use in active service, and will make him feel at home when he is called to the colors and assigned to duty with a sanitary unit. In addition to this, we will be able to send our newly acquired enlisted personnel to this center and give them the preliminary instruction in the duties of a soldier, and in field work. This will be preliminary to instruction at our divisional camps at a later date. A field training center has been one of the needs of the Medical Department for many years and I am sure we will have it within a very short period.

You will note from what has been said that our plans for the development of the Medical Department have in mind two things, *first*, suitable directing personnel; *second*, adequate training. It goes without saying that these are the bases on which any efficient organization must rest. In

closing I desire again to bespeak your countenance and support in carrying out these plans.

THE DISSEMINATION OF PROFESSIONAL INFORMATION IN THE MEDICAL CORPS OF THE NAVY¹.

BY

J. S. TAYLOR, M. D.,

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One of the obligations of the Bureau of Medicine and Surgery is to keep the medical personnel abreast of the times professionally. This is accomplished by:

1. Distribution of standard medical works.
2. Distribution of standard medical periodicals.
3. Issue of its own periodicals.
4. Special circular letters issued by the Surgeon General.
5. Distribution of special monographs.

Annual requisitions are prepared for the purchase of standard medical works for issue to medical officers of naval hospitals, stations and ships. The medical department of a ship is supplied with one or more works on medicine, surgery, hygiene, bacteriology, laboratory work, eye, ear, nose and throat, diseases of the skin and a medical dictionary; with a U. S. Pharmacopeia, a dispensatory and manuals and textbooks for instruction of the Hospital Corps.

Hospitals are furnished with a much more elaborate library. Additions and

changes are made from time to time in the official list of books carried at the Supply Depot and the Bureau honors requisitions for special works when accompanied by a letter stating that they are needed for additional information or some particular research or enterprise.

All medical officers receive the *Journal of the American Medical Association*; the *Boston Medical and Surgical Journal*, the *New York Medical Journal*, the *Medical Record* and the *U. S. Public Health Reports*. Hospitals receive in addition *The Modern Hospital* and a large number of standard periodicals such as the British service quarterlies, the *Lancet* and various American monthlies and quarterlies.

The Bureau issues three periodicals of its own. One is a summary of vital sanitary matters and a digest of health data and statistics of the navy. It is styled, *Notes on Preventive Medicine*. This was first issued as a weekly bulletin of information for medical officers on December 1, 1917, and was of a confidential nature. Since the suspension of hostilities it has been changed to a monthly bulletin and is no longer confidential.

The Supplement to the Naval Medical Bulletin was first issued in October, 1917, as a modest pamphlet of 30 pages, for the instruction of the Hospital Corps of the navy. It is now a profusely illustrated quarterly of one to two hundred pages and besides serial articles on the examination of food, the preparation of official forms, notices of promotions and contemplated examinations for promotion in the Hospital Corps contains in each number simple, practical papers on such topics as sanitation, the preparation of surgical dressings, details of nursing and notes on pharmacy and naval administration, etc. An important feature

¹Read at the 51st Annual Meeting of the American Medical Editors' Association at New Orleans, April, 1920.

of this magazine is the attempt to stimulate general education. To this end articles on chemistry, English literature and other pre-medical studies are secured from leading teachers in American colleges. An occasional account of travel, of life in the tropics, or of unusual cruising experiences popularizes the quarterly, promotes *esprit de corps* and prompts the hospital corpsman to mail a copy home or to civilian friends. The edition consisted of 15,000 copies during the war, but has dropped to 6,000 since demobilization. There is considerable demand for this magazine on the part of educators thruout the country and requests for copies are gladly complied with.

The same is true of the Bureau's most important and pretentious publication, the *U. S. Naval Medical Bulletin*, which has just entered on its fourteenth year of uninterrupted existence, having been begun when the present Surgeon General, Rear Admiral W. C. Braisted, Medical Corps, U. S. Navy, was Assistant Chief of Bureau under Surgeon General P. M. Rixey, U. S. Navy. The primary intention of the *Bulletin* is to distribute information of such facts and developments in medicine as have a special bearing on the peculiar needs of the service. Hence epidemiology, sanitation, medico-military administration, plans for sick quarters, ashore and afloat, or for hospitals and hospital ships, matters of diet and regimen, studies in anthropology, reports of recruiting, schemes for systematic physical training are given special prominence. The *Bulletin* does not, however, confine itself to these topics as medical officers serving at sea or on remote stations, such as those in the West Indies, Hawaii, Samoa, the Philippines and China are necessarily out of touch with medical information. Each number of the *Bulletin*, therefore, de-

votes considerable space to general articles on medicine and surgery and under the heading, "Progress in Medical Sciences," contains careful reviews of what appear in the periodical medical literature of America, Great Britain, France and Italy, as well as translations in whole or in part.

The *Bulletin's* department of "Special Devices" is intended to encourage the elaboration of instruments, appliances or details of procedure peculiarly adapted to the sanitary needs of ships, and to the modifications of operative technic and therapeutics incident to practice afloat.

The heading "Clinical Notes" is for reports of unusual clinical cases. Under "Reports" are published extracts from official communications of all kinds, varying from the history of a ship interned at Constantinople and studies of the climate, native customs, fauna and flora of some remote section of the earth, to statistics of yellow fever in Honduras or an analysis of the types of patients treated in a naval hospital.

Under the present management two new departments have been established: (1) Historical; (2) Book notices. Biographies of medical men whose high scientific attainments or heroic deeds shed lustre on the personnel of our corps have appeared in the *Bulletin* from time to time and from this has developed a distinct historical section aiming to promote interest in the history of medicine and at the same time to provide somewhat lighter reading of a semi-professional character. The book notices are intended to bring to the attention of the Medical Corps new works of special interest.

None of the Bureau publications contain advertisements. The *Bulletin* edition is of 3,000 copies, which are distributed to the

commissioned personnel of the medical department, to scientific societies, libraries, medical schools, the medical department of the U. S. Army, the U. S. Public Health Service and so forth.

These three publications are printed at the Government Printing Office, Washington, D. C. A certain proportion of each edition is automatically turned over to the Superintendent of Documents for distribution to pay subscribers and certain exchanges, etc. The Bureau distributes to the navy personnel and to foreign exchanges. Several hundred copies of these magazines over and above the number called for by us are printed by the Government Printing Office and are distributed to the so-called government repositories by which are meant the state and municipal institutions thruout the country entitled by law to copies of all government documents.

The details connected with the printing of our publications are complicated and time consuming and manuscripts and illustrations must be received at least two months before the intended time of issue. The requisition for printing specifies the number of copies, the size of the page and type, the number and character of proofs required, whether cuts for illustrations are to be furnished by the Bureau and if so, their number. This requisition, approved by the Secretary of the Navy or his deputy, goes with "copy" to the Government Printing Office. The illustrations are authorized on a separate requisition and bids for the work are called for by the local supply officer or paymaster, who must be furnished the names of leading engravers in the vicinity. The engravers are notified that the nature of the work will be explained in detail at the editor's office and they call there to estimate the cost and then send in

sealed proposals which are opened on a stipulated day. The contract must go to the lowest bidder. In case the work of the lowest bidder for a given contract proves decidedly unsatisfactory, his name can be stricken from the list of those invited to bid for future contracts.

Special circular letters issued by the Surgeon General from time to time are the readiest means of promptly appraising the medical department of new measures, remedies, etc. Thus, some years ago, attention was attracted to the frequent incidence of lead poisoning in the civilian workmen in our navy yards. A summary of the blood findings and other characteristic symptoms with methods of prevention and treatment was immediately sent out to all medical officers as a means of inciting them to study the subject. The sanitary bulletin has to some extent replaced this method of giving out medical information and the circular letters are now, in the main, concerned with details of administration and organization, changes in regulations, etc.

The Bureau has published three editions of a compact first-aid manual for use of auxiliary ships such as colliers and supply vessels navigated by a civilian master and carrying no doctor. A manual of nursing, first-aid, elementary physiology and materia medica styled the "Handy Book for the Hospital Corps" has gone thru two editions. Early in the course of the war the Secretary of the Navy, at the request of the Bureau, appointed Surgeon A. M. Fauntleroy, U. S. Navy, to go to Europe as a medical observer and his elaborate and fully illustrated report was the first book of the kind about the medical aspects of the war published in this country. Analogous reports on the Russo-Japanese War had previously been published by the Bureau. Surgeon W. C.

Braisted, U. S. Navy, wrote the report on the naval aspect of the Japanese campaign and Surgeon R. Spear, U. S. Navy, the one on the Russian forces.

The last monograph of this character was published as an extra number of the *U. S. Naval Medical Bulletin*, January, 1919, and was entitled "Medical and Surgical Developments of the War." It was prepared by Surgeon W. S. Bainbridge, U. S. Naval Reserve Force.

The thought uppermost in my mind as I review my three years of editorial work is the seeming indifference of medical contributors to clearness and accuracy of expression when they sit down to report a case or an operation. One wonders at times if the physician who is careless in writing can be master of good technic in the operating room or laboratory. Undoubtedly, much of the bad punctuation, bad spelling and bad grammar in the manuscripts received are due not so much to carelessness as to ignorance. It is to be feared that the writers of bad English cannot write good English and are not aware of their woeful deficiency in this respect, for if they realized it they would get some friend to do a little editing before committing the manuscript to the mails. One is forced to the conclusion that the teaching of English does not occupy the place it should in our system of education and it would seem part of the duty of the medical editors of this country to exert all the influence they possess to raise the standard in this branch of instruction.

Another point which I deem important for improving the medical press of this country is a more liberal use of foreign publications, not only because the periodicals of France, Italy, Spain and South America contain much valuable material,

but because in many scientific matters the viewpoint of Europe, etc., is different from ours and everything in science should be considered from as many angles as possible.

The peculiar needs of the medical officers of the navy demand that the reviews of articles which appear in magazines not accessible to them should be more detailed and extensive than those prepared for the men practicing ashore since the latter if interested in the particular subject discussed, can generally with little trouble refer to the original source. The average review covering in 15 or 20 lines the subject of a paper of as many pages is not much better than the full title of the article itself and a statement of the place where it appeared. I am in favor of having fewer reviews and making them fuller and more circumstantial. When the article reviewed is not of sufficient importance to justify discussion *in extenso*, it suffices to give the author, title and magazine. If the besetting sin of the contributor is haste in preparation of manuscript, that of the editor is a slap-dash style of reviewing.

The *Manual for the Medical Department* published by the Bureau of Medicine and Surgery, is a digest of the laws of Congress and of the Navy Regulations covering the duties of medical officers of the navy afloat and ashore. The last edition was printed in 1917.

Carbuncles.—Normal tincture bryonia, in three to five drop doses, will give excellent results in cases of carbuncle.—*Exchange*.

Burns.—One part of Calendula tincture to eight parts of glycerine makes an excellent dressing for open wounds or for burns (*Med. Summary*). Chapped hands are made smooth by the same preparation.

MAKING THE NARCOTIC LAWS HELP THE DOCTOR AND NOT HINDER HIM IN HIS WORK.

BY

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Opium is both a blessing and a menace; it is the province of the physician to make of it and its educts only a blessing and never a menace. It is a necessity in legislation that the use of opium and other narcotics, insofar as they are used conservatively and wisely, shall not be abridged; but it is just as distinctly the province of the law to restrict the destructive and menacing uses of these drugs both by the public and professional persons.

STANDARDS NEEDED.

The most perplexing problem to be met in formulating wise legislation and in conservatively enforcing it is the utter lack of standard usage of the several narcotic agents due to the personal equation of the prescriber and a professional lack of agreement over what is and what is not proper in the prescribing and dispensing of these most necessary and oftentimes helpful agents.

The range of usage, more particularly of opium and its educts, is rather remarkable when one is in a position, as is the writer, to review constantly the prescriptions and dispensing records of thousands of physicians. It is to be noted that there are many physicians of ability and prominence who are not registered at all under the narcotic laws for the reason that they use no opiates and no cocaine in their practices. Some of these gentlemen have adopted this course

by reason of the fact that they do not care to be annoyed with the records required by law to be kept; others are propagandists, interested in reform, and they lean over backward as regards the use of narcotics, excluding them wholly from their armamentarium, even as an increasing number of physicians are refraining wholly from the use of alcoholic liquors in their practices. But by far the larger number of physicians who use no narcotics have *gradually* come to this point of view; using less and less from year to year, they have come to the opinion that narcotics are unnecessary.

Now the writer does not believe that it is incumbent upon any physician to exclude narcotic agents in his practice, nor does he believe that it is wise to do so, for there are emergencies to be met that narcotics alone will meet adequately and there are cases in which the use of morphine is an unmixed blessing, relieving pain and prolonging life.

Careful records kept in this Bureau show that two-thirds of the physicians in practice in Pennsylvania use on prescription and dispensing an average of only $2\frac{1}{3}$ drachms of morphine a year. Now it must be estimated, in view of the fact that these two-thirds include the most able and highly educated members of the profession, men who are busy, who meet all sorts of emergencies and who are the real working force in the profession, that their views must be justified and that this small and conservative use of morphine is wise and beneficent, and that these figures should stand until better ones are obtainable as a fair standard of practice to which the average man may do well to make an effort to attain.

On the other hand, the other one-third of the profession, including many well-

meaning and hard-working physicians, but less educated, the ones more advanced in years and less discriminating, use 90% of the total amount of morphine credited to professional consumption on prescribing and dispensing. It, therefore, appears that the excessive use of morphine—these men use eighteen to twenty times as much as the more qualified two-thirds of the profession—is, in fact, due to a relative degree of ignorance, lack of attainment, failure in diagnosis, and unacquaintance with modern and effective technic.

The individual range of morphine prescribing in this state is from nothing a month to fifteen ounces a month, the latter being the highest average attained by any physician in Pennsylvania; but there are many physicians whose monthly employment of morphine will run from two to five ounces. Naturally these unduly heavy users come under the survey of the Department of Health, and we find that almost without exception these men are giving morphine illegitimately, largely to cater to drug addiction. To the credit of the profession, be it said, such physicians are relatively few in number.

Thus it will be seen that there is no authorized standard whereby one may judge what is right and what is not right in the use of narcotic agents. There is no agreement, no basal line above which one should not go and below which it is not expected that he should be required to go. The old empiricist on the one hand, and the ultra-scientific pharmacologist on the other, have widely diverging views. What view, then, is the average clinician to follow? He purchases a modern textbook and he finds that the writer, usually a distinguished authority, commonly follows the customary line of procedure and in discussing drugs

endeavors to be all-inclusive as regards therapeutic indications. Read these books, and one will find usages assigned to mercury that have almost gone out, the employment of salicylates covering a wide range, far wider than practice justifies, and so on thru the whole range of materia medica, and more particularly is this true of the narcotic agents.

The writer had submitted to him for criticism a series of articles written for a medical journal by a most able and conscientious physician. These articles were upon opium and its educts and there were few diseases in all pathology but were mentioned as justifying the use of narcotics. Indeed, reading this series of papers alone, one would gain an impression that opium and its educts carefully administered would relieve or cure nearly every disease known to man. Now the writer knows this gentleman and he knows his line of practice. He is most conservative in the prescribing of narcotics, using them rarely indeed, and yet when he wrote an article he drew upon all literature to express the all-inclusive usage, the outcome being a series of papers that, if published, would do more harm than good.

GOVERNMENTAL STANDARDS NEEDED.

Who, then, is to judge? Necessarily there must be some official standard of usage; and the Internal Revenue Bureau of the Federal Government, lacking such official expression, is perplexed beyond measure in dealing with the thousands of cases presented to them in which apparently the physicians have gone beyond proper bounds in prescribing narcotic agents, both as to the specific cases in which they use them and the total amounts used in their prac-

tices. The Government knows that these gentlemen can readily refer to medical literature justifying such prescribing and tending to show the good faith of the physicians who have prescribed "not wisely, but too well." Therefore, there should be a thorough study made of the *necessary* usage of narcotic drugs, a study participated in by eminent clinicians, trained pharmacologists, specialists in the several lines of medical and surgical activity, and toxicologists; then, having worked out the details, they should argue the points pro and con, submitting the findings to others for review, and finally adopt a standard of proper usage of narcotics that the whole profession, regardless of school, would recognize as just and proper and that would at once afford the governmental authorities enforcing narcotic laws with a standard of comparison that would simplify administration, help the conscientious doctor, prevent a vast amount of friction, promote clinical accuracy and medical science, reduce abuse and promote the interests of the people.

EARLY PRACTICES.

The writer was recently shown a photograph, taken thirty years ago, of the then staff of a large and prominent hospital, and the comment was made that of the fourteen gentlemen on this photograph twelve had died drug addicts or drunkards. This is an extreme instance, but it is illustrative of the fact that narcotic agents and alcohol were used twenty years ago with a free hand, with little discrimination, with little thought of consequences beyond those of the immediate moment; and I feel justified in saying that altho there was no outcry over the subject twenty years ago, there was at that time vastly more narcotic addiction

than there is today, that is, over the country at large.

But it must be admitted that we have now a city problem and a peddler problem, involving the illicit and unprofessional use of narcotic agents that has rendered control by governmental authorities very necessary; in other words, the drug addicts of today are not to be credited to unwise professional medication to any way near the extent that they were ten or twenty years ago; for a vicious commercialism has come in, taking advantage of the unfortunates and exploiting the lower orders of society particularly, for the financial gain of the set of degenerates in the nefarious traffic in narcotic agents supplied for habit-induction and habit-satisfying purposes. Certainly it helps the physician and the people at large to suppress this traffic and, as well, that participated in by discredited physicians.

NEW CONDITIONS.

There are two problems to face today: *first*, the use of narcotics illegitimately by professional people; *second*, their use illegitimately by non-professional people. It is not to be expected that a reconstruction of the medical profession can be accomplished in a day. There are many poorly informed physicians who thoroly believe that they are doing good in their employment of narcotic agents in practice, because they are not skilled in the employment of other means of relieving pain and overcoming disagreeable symptoms. These men are, of course, a problem. They have to "be shown"—graciously if possible, courteously always, and it is a mistake to endeavor to club them into submission to modern principles and recent standards. Yet this is a problem hard for the Govern-

ment to meet. The Federal Government lacks police power in the states, and it is perfectly right and proper that the individual states, acting thru different agencies, should endeavor to adjust this problem, hand-picking the profession, eliminating the "rots and spots," everlastingly educating, adopting policies of cooperation with the physicians, and above all seeing to it that the people—all the people—are afforded the advantages of modern medical and surgical practice, whether at the hands of the individual practitioner or in hospitals and institutional service. This is a constructive work, and this is, largely, the work that the Pennsylvania Department of Health is endeavoring to do to promote public health, to reduce narcotic abuses, to help the people, and to aid the medical profession.

The problem of the illicit unprofessional peddler or other purveyor of narcotics is a police problem almost entirely and requiring the utmost rigidity of the law, the constant use of detectives, and a never-ending follow-up of this peculiarly vicious class of destroyers of our citizenship and civilization. This is a phase with which this paper does not deal.

LEGITIMATE MEDICAL PRACTICE.

The effort made by some enthusiasts to restrict the use of narcotics when employed as a blessing will come to naught. There is no real substitute for opium. No effort should be made either by the Federal or state officials to interfere with the rights of a competent physician in prescribing and dispensing in the legitimate practice of medicine such narcotic agents as the consensus of informed professional opinion may declare proper under a system of standards before spoken of as necessary. But there

is just as much occasion to regulate the *alleged* "medicinal" usage of narcotic agents by incompetent and uninformed physicians as there is to regulate the usage of other poisonous agents; to require us to declare certain lines of so-called medical procedure as malpractice, or to regulate in any other necessary way, as it is to the advantage of sound public policy so to do. When we acknowledge, as we must acknowledge, that there is an ever-present danger of inducing the habit by the prolonged use of narcotics even under therapeutic indications, it is certainly right and proper for the state to intervene and say in substance "Thus far shalt thou go and no farther."

THE WISE AND DISCREET PRESCRIBER.

The writer asserts without hope of successful contradiction that the narcotic laws actually aid the wise and discreet practitioner. First of all, they have shut off from purchase over the counter all except the so-called exempt list of narcotic preparations carrying only the minimum quantities, and it is a serious question whether there should be *any* exempt list permitted to be offered for sale without prescription. The wise and discreet physician now knows that his patient properly medicated by himself is not procuring, and is not apt to procure, narcotic agents that would interfere with the treatment given, retard recovery, and do harm to the patient.

There was a time when there was to be found in every neighborhood a very "popular" doctor who could never say no, but would cater to the unwise whims of his patients and who built up a large practice by more or less questionable methods, among them being the free administration of narcotics to all those persons of such

temperament as would find the more or less continued use of opiates pleasant or agreeable. This "popular" doctor, so far as narcotics are concerned, has been checked in his amiable but nevertheless nefarious custom of handing them out with a free hand, and I believe the conscientious physician does not now have to meet with that form of unfair competition where the laws are enforced.

Then, too, the world is full of unstable persons, many with more or less marked psychoses, and their constant craving is for some "sweet nepenthe." These people constantly urge the doctor to prescribe narcotics for them and, now that the law intervenes, the physician can say to these persons that it is illegal for him to prescribe according to their judgment instead of his own. He can deny the supply of narcotics to these unstable ones without losing their practice or their respect; and, needless to say, it promotes his own self-respect and aids many a physician to do what he wishes to do, but now can do more readily because of the support of the Government itself.

PENNSYLVANIA PRACTICE.

It is, perhaps, not to be expected that any Federal Bureau can go very far into the *human side* of the narcotic proposition; it cannot adequately follow up the individual patient and the individual doctor. To do so would involve huge appropriations of money and the appointment of a very large personnel; but the State Department of Health, let us say, can within its own state use the machinery already possessed and add thereto what is necessary for the specific work; make a survey of every part of the state, personally see professional

people, visiting drug stores, and in a large measure make physical examinations of the unfortunate addict class.

This is what Pennsylvania's Department of Health, thru its Bureau of Drug Control, is endeavoring to do without sensational propaganda, without any preconception, without any political axe to grind, without even personal prerogative or ambition entering in.

Now the facts are sad, but they are not nearly so discouraging as might appear on the surface. Whereas it was probably true that when our work was begun there were 50,000 drug addicts of various classes in the State of Pennsylvania, the mere fact that a constant survey is maintained has eliminated large numbers of these people from the addict class by virtue of their own effort and professional and public opinion. I beg to assert positively that it is not true that no addict can cure himself, for we meet with too many instances here in which an addict to morphine has quit definitely and conclusively, just as many men who have long used tobacco have stopped smoking or chewing. It must be admitted that these are milder cases, often mere drug tipplers, cases in which the addiction is merely a habit or diversion and in whom there is no special pathology—cases of habit pure and simple—a habit that can be and is dropped just as any other vicious habit may, with effort, be abandoned.

Eliminating this element, for under proper laws it is self-eliminating, just as prohibition is eliminating the consumption of liquor on the part of many of those who were drinking merely socially or as a habit, we have left the persons in whom there is real pathology as a factor. Now this brings up an important problem.

PURE ADDICTS.

Most pure addicts are not self-curable; the longer the addiction the less will-power they have, yet practically all pure addicts under fifty years of age are readily curable under proper discipline and restraint. Those best in position to know, who have handled the largest number of cases, find that rather prompt withdrawal, with proper supportive treatment and use of hyoscine or belladonna for a short period, makes it comparatively easy to take these people off the drug of addiction. But the fact that they are off the drug of addiction does not mean that they are cured of the addiction itself. It takes a considerable period to build up their systems, restore their will-power and develop what has been lost mentally and physically.

The very plausible theory that morphine addiction is, *per se*, a disease mechanism is upheld by many, but it is rejected by the most practical administrators of the laws regulating the use of narcotics, as well as by the more successful physicians who have treated large numbers of these cases.

These pure addicts are a pestiferous nuisance to the physician in private practice, and it is a fact that few physicians are in a position to give them proper treatment. It is generally admitted that the so-called ambulatory reductive treatment is a complete failure; so, then, if under the administration of the narcotic laws the physician can be relieved of the importunities of this class of unfortunates, these laws will be a great aid and help to the medical practitioner. Steps are now being taken to aid the doctor in the care of addicts, or to relieve him entirely of them by hospitalizing these cases. It appears to the writer that both the Federal and State Govern-

ments owe it to the profession to make proper hospital or institutional provision for the care of these people. It is perhaps necessary to discriminate and classify the pure addicts, separating the criminal classes from those who have no vicious tendencies, and segregating the cases with marked drug psychoses. Unfortunately the addict has been neglected and much criticism is directed against the medical profession which is not merited. The physician is facing all but an impossible situation in dealing with these people in his individual capacity, and it is becoming increasingly necessary that their care becomes a public matter.

ADDICTS WITH DISEASE.

It is undoubtedly true that unwise medication often superimposes drug addiction on many cases of curable disease. This is unfortunate, but it is due to the following factors:

First, lack of hospitals in many sections wherein these people can be given proper care, being cured of their diseases, and thus eliminating any liability of their becoming drug addicts.

Second, the fact that many of these people are poor and are unable to pay for proper medical and surgical attention, drifting into drug addiction largely on account of their wretched and neglected condition.

Third, the physician being unprogressive, failing to learn modern methods and resorting too freely to the use of narcotics.

Fourth, the stress of modern life.

INCURABLE DISEASE.

The incurable is an object of pity. It is the easiest thing in the world to allow sympathy to prompt the use of too much

narcotic medicines in an incurable case. Yet, what is the physician to do? Some of these people will have their lives prolonged by the discreet and yet continuous use of narcotic agents in moderation; others of them, such as the sufferers from cancer, are under such great stress and suffer such pain that humanity demands the free use of narcotics in their cases. The laws do not interfere at all with the prerogative of a physician in prescribing for these cases, but they do impose certain responsibilities upon physicians and druggists, so that the supply of narcotics furnished to these people may be used by them alone and may not fall into the hands of others who may make illegitimate use of them. The practice of stocking up by these unfortunate incurables with large quantities of narcotics is to be reprobated, and the regulations of the Internal Revenue Bureau do not permit prescribing except for the immediate or other necessary needs of these people.

AGED ADDICTS.

While Pettey contends that the aged addicts can under proper conditions be cured, and while this is undoubtedly true, the fact remains that the physician in general practice is not in a position to cure them. Yet many of these people who have been long addicted are suffering more from the addiction and its consequences than they are from the infirmities and disabilities of age. Many of them can be gradually reduced in dosage, but it is undoubtedly true that a sudden or even complete withdrawal of narcotics from these long-time addicts who are advanced in years may result in shortening their lives, and in a few established instances it has been proved that the withdrawal of the drug resulted in fatalities.

A mere bureaucratic handling of the situation leads to little of advantage. Many factors involved render the situation difficult at best, and it is necessary that to mere legal control must be added thoro clinical survey, each class of cases and each individual addict being judged on merit. This involves a great deal of work, work that can be done only by a reputable physician; and we are gradually training in this county a number of clinicians who are discreetly handling the situation, evaluating cases, endeavoring to aid boards of health and municipal authorities in handling local situations and fraternally aiding the individual physician to meet the problems of addiction that come to him in his practice. The progress is necessarily slow under such a system, but it is constructive, and under the system adopted in Pennsylvania and elsewhere the result is not one whereby the doctor is hindered in his work, but one wherein if he gives proper cooperation he is definitely helped. In Pennsylvania we record all cases reported to us in which the physician believes it necessary to administer narcotics in large doses or constantly in smaller ones. These cases are all classified and the record kept stands as a protection for the doctor and his patient insofar as narcotics are being used wisely and legally. Thus we separate the sheep from the goats, aiding all reputable physicians, and in many instances standing between them and threatened enforcement of the laws against them for mere technical violation.

It is certainly an aid to the profession at large, and necessary for the public health, that the improper use of narcotics, whether by the lay public or by the incompetent physician, be restrained. It is also necessary to proceed legally against a few rascally doctors who are prescribing narcotics

viciously and for the purpose of making money by exploiting the misfortunes of the addicts. Such enforcement of law tends to elevate medical standards, protect the worthy and eliminate the unworthy. It is certainly to be desired that the commercial "dope doctor" be eliminated from the medical personnel just as is the commercial abortionist.

DRUG-ADDICTED PHYSICIANS.

It is an unfortunate fact that many physicians are themselves addicts to the use of narcotics, and most of them are worthy men working hard under stress; and this very stress is what promotes their tipling. A comparative few become hopeless addicts. Then, too, the doctor neglects his health; it may be, too, he has some surgical lesion, but he does not have an operation done; he may have a gastric ulcer or other debilitating disease and he keeps going on morphine. Sad, indeed, are the histories of many of these worthy men, and particularly so when, as is often the case, they go from bad to worse, and finally it becomes a problem what to do with them. Constructive administration of the narcotic laws will help these doctors, aid in securing for them proper hospital and other care, relieving them of their addiction and making them useful citizens and practitioners again, if possible. Unfortunately this fails with many, and these men become cute and even vicious; some are, in fact, menaces to their patients, and in Pennsylvania it is often found necessary to suspend their licenses to practice medicine. A number of them have been suspended and other cases are pending. This is rather a drastic measure, but it is effective, and some of these addicted physicians who would not listen and

whose licenses to practice medicine have been suspended have "come back" as men, as citizens, and as physicians, and they have thanked us for *compelling* them to do what they would not do themselves. A few such men whose licenses have been taken away will, I fear, never get them back again, for they have become hopeless from a medical point of view—careless, indifferent, vulgar and depraved. Certainly it is necessary in the interest of public health to prevent these men from practicing medicine.

No law can long be enforced against public opinion and few laws are a benefit unless they lead to constructive results. The narcotic laws are no exception. Undoubtedly they are more or less defective and it may take some time to work out satisfactorily what is right and necessary and what should not be attempted in the enforcement of these laws. Above all it is necessary to make them helpful to the physician and to gain his hearty cooperation in the enforcement of regulations that he himself will come to see are reasonable and just.

THE LONG HISTORY OF THE SHORT INCISION.¹

BY

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On a recent trip thru the South and West I was asked on several occasions to give something of the history of the short incision in appendicitis work. The subject remains one for controversy in many parts of this country and abroad.

In the early nineties surgeons were much

¹A paper read at the meeting of the Medical Union, New York, May 25, 1920.

disturbed in mind. The older surgeons had ceased their ridicule of the younger men, who were bent upon introducing the principles of antiseptis and of asepsis, and were swinging into the full tide of the Third Era of Surgery—the Pathologic Era. A rock stood in a channel of thought. Over in England there was a rascal by the name of Tait, who did not believe in antiseptis or asepsis, but who was presenting better statistics in abdominal work than were being presented by any of the enthusiasts of the new revelation. How to get past Tait without wreckage of ideas was the problem. Some said that he lied. Others found mental relief in believing that he made selection of cases for purposes of favorable report. Personally, I was fully in favor of accepting these easy ways of steering past the rock in our channel, and yet it seemed to me that perhaps I might not be brave in so doing. Possibly it might be better to go and see Tait at work and then make deductions subsequently. I saw him at work. He operated very rapidly, thru comparatively short incisions, guided by the sense of touch, subjecting his patients to the minimum degree of "attack of surgery."

At that time we had not made an extensive study of the resistive forces of a patient. We were on the road to emerge into the field of the Fourth or Physiologic Era of Surgery, in which a patient is given Home-Rule—turned over as quickly as possible to his own protective resources. The First Era of Surgery had been the Heroic Era for ages. Then came Vesalius and the other anatomists, with the introduction of the Second or Anatomic Era in Surgery. Pasteur and Lister followed shortly with the introduction of the Third or Pathologic Era, in which the surgeon was supposed

to destroy bacteria, and dispose of the by-products himself, regardless of the patient's ability to do the same thing. This the surgeon was doing very conscientiously, backed by a high degree of scientific information, in the early nineties.

It so happened that appendicitis of the infective type did not happen to fit well into the theories of this Third Era of Surgery. According to the annual reports of a number of our best hospitals, the death rate in appendicitis surgery ranged from fifteen per cent. to twenty-seven per cent., varying somewhat with the kinds of cases operated upon by the staffs of different hospitals. Impressed by the results of Tait in abdominal surgery, I made an effort to operate quickly in appendicitis cases, thru short incisions, and with the effect of reducing my own mortality rate and morbidity rate so rapidly that no doubt was left as to the value of the method. The only question related to its limitations. Not wishing to jeopardize the interests of any patient in the interest of an idea, I gradually worked thru shorter and shorter incisions, until it became apparent that an incision less than two inches in length for interval cases of appendicitis, and not more than three inches in length for cases with peritonitis or abscess or both, sufficed for cases as they ran, always leaving a margin for exceptions. One day when giving a clinical lecture before the class at college, I stated that an inch and a half incision in appendicitis cases commonly kept the patient in bed only ten days. My assistant, Dr. Openheimer, remarked *sotto voce*, that ten days was a week and a half. Turning to the class I said, "Oh yes, the inch and a half incision gives a week and a half confinement in bed." The class gave prompt evidence of amused interest, and I shortly afterward

published a paper with that caption. The reaction in the profession was to the effect that such a caption was sensational in its nature—something very undesirable. As a matter of fact, my intention had been simply to concentrate attention upon the point, in order to allow men to think at a target. In a spirit of good humor other surgeons made additions to the formula, the first of which was “an instrument and a half” because I used very few instruments. The next addition was “a minute and a half,” and the final touch was given by a layman, discussing the matter with a surgeon, who said that “a dollar and a half” ought to be added to the formula, altho I had never made any feature to the financial side of my surgery. The formula, however, on the whole seemed to have hooks which attached themselves to the sense of humor among doctors, and the formula quickly went around the world, but with the result of bringing out violent reactions.

I had been enabled to publish a series of one hundred unselected consecutive appendicitis operations with a death rate of two per cent., one-half of the number of cases being of the acute type with peritonitis or abscess complications, and many of the remainder being interval cases with adhesion complications. The report was received with much skepticism. One surgeon, who has since then expressed his regrets, wrote to the *Medical Record* stating that such statistics were vainglorious cheats, meaning selection of cases for favorable report, and neglecting the patients most needing our attention. So good a surgeon as Dr. Keen, commenting upon the subject in the course of a discussion at Denver, said that it would be impossible to operate upon one hundred abdominal cases of any sort, with a death rate of only two per cent.

Dr. Bull said that he believed I was right, but he could not carry the principles into practice, because the very idea “made his blood run cold.” Dr. Wyeth, in a discussion at the Academy of Medicine, said that his appendicitis patients remained in bed six weeks instead of ten days. It is not necessary to make further quotation along this line as the temper of the profession in the matter at that time is sufficiently shown. All these first-rate surgeons who expressed themselves so vehemently were authorities, whose opinions carried great weight. They were perfectly conscientious, and were expressing beliefs that were sound, on the basis of the principles of the Third Era of Surgery.

It was the short incision and its results which furnished backing for the Fourth or Physiologic Era of Surgery into which we are to emerge soon, with all of the enthusiasm and vigor which were expended upon the principles of the Third or Pathologic Era. The very best surgeons are always the ones who are most vehement against any innovation, and properly so.

Dr. McBurney believed me to represent a dangerous influence and expressed himself to that effect very openly. In fact, he prevented my admission to the Century Club, acting upon conviction that was honest in its nature. My admission to the University Club was also prevented by one or two of our best surgeons. When an innovation of this sort is under way, here and there is always someone who stops to think. Dr. L. W. Hotchkiss was one of those who stopped to think. At one of the hospitals with which he was connected the death rate after appendicitis operations had been thirty-one per cent., but Dr. Hotchkiss, after adopting the “difficult and dangerous” way of procedure at this hospital, had a run of

seventy-six consecutive appendicitis operations without a death. The leading surgeons are the ones employed by the most responsible general practitioners, and when these were informed that my ideas were not sound, there was such interference with my income that a question arose at one time if I should not have to give up surgery and turn to some other occupation in order to support my family. One day, when discussing the subject with a business man, he said that he could not understand why anyone should follow methods which caused him distinct financial loss if he knew how to change the situation and make a profit. My reply was that that represented the difference between a profession and a business.

The best surgeons in general who were successfully trying to make their appendicitis work fit the principles of the Third Era of Surgery were not having a comfortable time on the whole. Many of the conservative general practitioners argued at that time that deaths after operation for appendicitis equaled in number the deaths after medical treatment and, as usual, they were not far from right. They did not know, however, of the work of some of the younger surgeons which was giving a very much lessened mortality rate and morbidity rate, as a result of their operative work. A famous Chicago surgeon, Dr. Fenger, reported fourteen consecutive deaths in a series of fourteen consecutive appendicitis operations for cases with peritonitis and abscess, one or both, and came to the conclusion that appendicitis cases should not be operated upon at this stage. Had he employed the principles of the Fourth or Physiologic Era of Surgery at that time, it is possible that he might have saved at least twelve patients out of the fourteen.

Anything which calls for a special degree of skill is apt to be unpopular, but there were very many surgeons with a highly developed sense of touch, who were beginning to approve of rapid work and short incisions in abdominal work, when a new obstacle arose. This obstacle was the introduction of the rubber glove.

The rubber glove represents one of the very best advances ever made in surgery, but it has its limitations. In the particular field of abdominal surgery it calls for the employment of rather large incisions and work by sight, because of interference with the sense of touch. It has been my contention that these longer incisions allow more bacteria to fall into the wound from the air, than would be carried into a wound by well-prepared hands minus gloves. Experiments made in the operating room with culture media exposed in Petri plates showed that the culture medium in these plates always becomes quickly infected by bacteria which fall into them from the air, and this testimony is offered in support of my belief. Some very fine reports of abdominal surgery results have been made by men of matchless skill who work thru long incisions, employing rubber gloves, but they work quickly and accurately. At the present moment, in fact, it is the custom in some localities to make abdominal incisions so large that one may introduce the whole hand and explore all parts of the abdominal cavity in a search for objective signs of other conditions which may be causing trouble. No method in surgery has ever been static, and it is my belief that the excellent surgeons who hold this view regarding exploration thru large incisions will change their views to fit the principles of the Fourth Era of Surgery, in which the patient is given a mild attack of surgery—

so mild that it does not interfere with his development of his own protective resources. It seems to me better to employ all of our methods for preoperative diagnosis so carefully that we may know pretty well what to anticipate. If more than one structure is involved in an abdominal case, I have personally been in favor of more than one short incision, instead of a single large incision which would allow of wide exploration. During the past thirty years I have changed my points of view so many times on so many subjects that I have little confidence in anybody who trusts me, but up to the present moment it is my belief that the short incision, dependence upon a nice sense of touch, rapid work and thoro preoperative diagnosis, will again appeal to surgeons as it was beginning to appeal to them at the time when the rubber glove arose as an obstacle in the way of development of the Physiologic Era of Surgery.

616 Madison Avenue.

GROUP HELPFULNESS.

With Special Reference to the Reducing of the Effects of Disease and Decrepitudes to a Minimum Thru Regulation of Habit, Conduct and the Neuro-Muscular Mechanisms.

BY

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As new light is shed on the phenomena of disease, new codifications of laws, principles are needed in appraising not alone primary causes and phenomena, but also collateral disturbances, and above all, the effects produced.

Disease is not so definite, so obvious an entity or proposition, and is far less prevalent than many vociferous healers and opportunists would lead us to believe. Disorders form the bulk of clinical problems, next comes the residua, often distressing, perilous or progressive.

The effects of disease form vast and complex propositions, too often depreciated, misinterpreted and mistreated. This is due to errors both of patient and of physician. Each should confide more often and more frankly with the other.

The patient usually underestimates subjective phenomena; either delays overlong in seeking advice, or grows dissatisfied with the kind and degree of progress achieved; or, on the other hand, becomes oversolicitous, anxious or frantic about his or her state and grossly misrepresents both feelings and facts.

The error a physician is liable to commit is not so much in omitting a thoro consideration of dominant factors, as in becoming confused or wearied by what seem trivial complaints.

Effects of bodily disease are baffling enough, but simple in comparison with the ramifications of mental sickness, psychopathy, disorders of personality. Thoro disentanglement and regulation will reward both subject and adviser.

First and foremost stands the problem of a human being damaged by disease whose personality demands consideration. Restoration to the norm should be achieved as fully and completely as is consistent with inherent or survival powers, making use of all available resources.

In addition to so-called advanced scientific means of determining the nature, extent and curability of disease processes, there is often a secondary or collateral

group of equal significance, but too frequently subordinated or neglected. In particular many significant phenomena are only to be differentiated by this exploration of the static, neuromuscular and grosser reflex mechanisms.

These collateral phenomena and resources are usually alluded to by textbook authors only casually, with inadequate definition. They often escape consideration by those whose attention has not been trained in those lines. Measures for relieving them are grouped airily, in vague general terms and disposed of too briefly; oftentimes disparagingly.

Urgent, immediate, direct factors get prompt attention. After achieving an accurate diagnosis and giving directions for suitable medication, it is then assumed that any conscientious practitioner can be entrusted with the residue.

Collateral phenomena are often of such grave import that they constitute one-half or more of the problem. They can be evaluated only by study of the individual from other angles of vision; by determining many points not ordinarily receiving attention, among which are factors in social, domestic or industrial economics; also in remedies applied from outside (biokinetics), in mental regulation (psychokinetics) and in explaining the relationships which the individual stands to his or her environment.

Doubtless careful, accomplished clinicians rarely omit (or believe they omit), covering the whole ground of rehabilitation. Among busy general practitioners or high-class specialists there are, or can be, few at most equipped with so comprehensive a clinical grasp as to do full duty to a man or woman sent to the rear ranks of proficients by illness, injury or surgical procedures.

Cooperation in any industry is the only means of achieving best results; and that of human conservation and uniform restitution is surely among the highest departments of endeavor.

The group unit, cooperation among circles of general practitioners and specialists, is increasingly commended, and easily practiced as the one agency for thoroughness. From cooperation among such a group alone can the patient get that efficient supervision of his whole make-up, deficiencies or defects which is so often absolutely essential for restoration to the front ranks. Upon whom can the patient rely for counsel first and last?

At once the answer comes: "From the family physician, of course!" He it is to whom the specialist does, and should, return the case; hence he it is who is responsible for the completed restitution.

Eminently proper as this is from the standpoint of ethics; how about the standpoint of economics?

In many, perhaps most, instances one adviser will suffice. General guidance of life and conduct one man is usually capable of supplying along with the self-restorative powers of nature.

Family physicians are often also specialists in one or more lines "on the side." Most of them are over-busy and harassed by multifarious exactions. Small time or strength have they for critical diagnoses of collateral or contributory lesions or disorders. How often does the home adviser become an expert in physical or mental conservation or rehabilitation, in constructive or reconstructive personal hygiene, or is he competent to deal efficiently with significant factors in structural damage, especially when induced by protracted or complicated lowering of vital planes?

The basis of restoration to the full norm is to bring up to par not only the original status, but to develop what has not been developed, and this must be done in accord with biogenic design (palingenesis).

This design includes balance, stabilization in not only the structures, but also the energy content, the reflex mechanisms, but, above all, in the psychogenic factors, the chief of which is the field of the emotions, feelings—in short, behavior.

The rejuvenation of an invalided or a decrepit human being is no one man's job; above all no one amateur's.

Diagnosis is not only the first and most important step, but it often must become a continuous performance thru constant revisions in order to become thoro and practical.

New problems are liable to arise constantly needing attention; subsidiary or collateral derangements occur which will not pass away unaided, but form points of origin for yet other derangements, otherwise they evolve into structural degenerations.

Obvious distresses being relieved, most disorders do subside. Sensory stimuli long busy in disturbing, however, tend to sink below the threshold of consciousness and cease to warn or guide. There they persist or progress, inducing correlated derangements upon highly specialized and regulative structures, the nerve integrity cell, ductless gland tropisms and the infinite ramifications of the vegetative nervous system.

Every physician is prone to consider problems presenting from the aspect of the near-at-hand, the urgent, the immediate or crying needs. Studies of subjective symptoms must be carefully weighed, with critical acumen, or primary or concurrent psychopathies will vitiate conclusions. All data require judicial consideration, with a

perspective vision. A golden rule is to habitually revise one's first impressions in the light of later ones after each interview.

Physician and patient who see much of each other, or are on terms of relative intimacy, each lose zest in the long accustomed point of view of the other.

In diagnosis of any condition, acute, urgent, or where obviously the states are accumulations of disorders, attention is demanded for associated or subsidiary disorders.

Expertness in palpation, well fortified by a knowledge of physiologic physics, mechanical principles, notably of local tension, relaxation, support, of disorders in hydrostatics, in resistances, normal relationships and equivalents, deserve to be achieved and more generally used.

Assuming that there has been a need for consultation with a specialist, and when the particular organ at fault or symptom-group then presenting, has received due attention by the expert, the episode is too often regarded as closed.

Baffling components of wretchedness or impaired vigor may well be caused by new happenings, or more often by neglect of early phenomena, by overlooking significant actualities which persist, but are outside the experience of the family adviser, or even of the specialist consulted.

Hence a very definite need exists for study of the *status quo praesens* by a new personality, and especially by one whose interest lies in the welfare of the organism as a whole. In this all-over search I urge the importance of studying the biokinetic factors, those phenomena chiefly determinable thru biophysics.

It is a large order to restore full health when ailments have long persisted. Endless complications, usually minor ones, com-

bine to render the difficulties most complex.

A heavy responsibility rests on the well-meaning optimist, or one inexperienced in the by-paths of chronic disease, who undertakes unaided the task of restoration.

The patient often enough becomes impatient. Small blame to him; he is a deeply interested party.

A human being out of gear is closely analogous to an insentient machine in that it needs once in so often to be overhauled, adjusted, tightened up here, loosened there, till the parts controlling energies again work in harmony. The elements of disharmony are many and frequently have to do with mechanical factors, variants in circulatory balance.

Diagnosis has recently made long steps forward by reason of hitherto undreamed of sources of direct evidence. Among the broadening agencies are modern opportunities for learning facts necessary for determining right courses of clinical action through such means as:

Social service, comprehensive plans now growing whereby the entire domestic, industrial, or municipal *entourage* is calculated in its relationship to the individual. These bear directly and forcefully on the province of the medical adviser.

The newer practical phases of psychology afford means for appraising mental confusion, in their more current aspects, including perturbations in both intellectual and emotional domains, doubts, fears, disquietude, suppressed anxieties, the lethargy of moral shock. All these form grounds for special endeavor. We thus get light on three groups of facts: (1) The estimate a patient makes of his own state. (2) His capacity of adjustment to his own environment. (3) On what the adviser comes to conclude that the patient's capabilities and

resources actually are.

From the earlier crude recommendations to sympathize, to soothe, to encourage or suppress the more obvious psychogenic over- or undertones, we now have learned the necessity of patient psychognosis, differentiation of mental phenomena, the value of rational investigation followed by explanation, persuasion, kindly domination, substitution; in short, scientific psychosynthesis and psychotherapy. A disturbed or confused mind must be patiently taught to become its own restorer, its own self-regulator.

Above all must the perturbed emotions be patiently disentangled, self-respect restored, right ambitions fortified. It is not the idealism which counts in the final issue, unless accompanied by a sane emotional appeal. Hereby can be set in order jarring feeling-tones, distorted imaginings and vitiated points of view.

Thus the clinical problems where the conditions have been long existing or progressing is no "one man's job." Diagnosis and therapeutics are a uniform enterprise; they must go hand in hand, must be a continuous performance.

THE RECOGNITION OF HYPERTHYROIDISM.

BY

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It is rather surprising, in view of the fact that there are many cases of hypersecretion of the thyroid, that so many instances of this condition are overlooked entirely, or incorrectly diagnosed as "heart disease,"

neurasthenia, tuberculosis, "nervousness" and what not. The cases of early hyperthyroidism particularly have been garbed in the clothes of other diseases, by us all, and treated correctly for the diagnosis, but very incorrectly for the real condition. Ever since long before the time when Caleb Hillier Parry, a physician of Bath, England, first noticed, in 1786, some of the symptoms resulting from hypersecretion of the thyroid gland, the way of those individuals afflicted with this disease has lead from one doctor to another—physician, surgeon, osteopath and what not—until some of them reflected the sentiment expressed by an immortal Persian, about—

"Myself when young did eagerly frequent
Doctor and saint and heard great argument

About it and about; and, evermore
Came out by the same door as in I went."

Now, however, the symptomatology and physical findings rest upon a fairly firm foundation; and, in addition, there are certain laboratory tests which are of great value in arriving at a diagnosis in doubtful cases.

In summarizing the symptoms, both subjective and objective, it is necessary to remember that the number and severity of most of the symptoms are directly proportional to the amount or degree of hypersecretion.

Plummer, in a review of a large number of cases seen at the Mayo clinic, gives the order of onset of the general symptoms as follows: cerebral stimulation; vasomotor disturbances of the skin; tremor; mental irritability; tachycardia; loss of strength; cardiac insufficiency; exophthalmos; diarrhea; vomiting; mental depression; jaundice and death.

In an abbreviated paper such as this is,

it will probably be well to group the symptoms as follows:

1. *Mental Symptoms*.—All of us have noticed the unusual vivacity, the restlessness and emotionalism of these cases, particularly the cases of moderate intoxication. Excitement and irritability result from slight causes. Congestive headaches, tinnitus aurium and insomnia at times occur. There may be even delirium, epileptoid convulsions and attacks of hysteria.

2. *Ocular Signs*.—Among the signs which we notice about the eyes, we may mention (a) lagging of the upper lid when the eye follows a finger downward or upward; (b) spasmodic contraction of the upper lid when the eye first attempts to look at a finger; (c) retraction of lids, resulting in large palpebral fissures; (d) difficult eversion of upper lid; (e) infrequent winking; (f) impairment of power of convergence; (g) exophthalmos, and (h) paralysis of the ocular muscles. In addition, a rhythmic murmur, synchronous with the pulse, is often heard when the stethoscope is placed over the eyeball.

3. *Glandular Signs*.—On careful examination one usually finds some swelling of the thyroid gland. This gland is usually soft, comparatively smooth, and frequently is tender. At times, a pulsative expansion may be felt or seen. Sometimes a "whirring" sound is audible over the entire gland, and less frequently over the course of the thyroid artery to the carotid.

4. *Nutritional Signs and Symptoms*.—The body metabolism has been shown to increase in rate up to about 75% above normal, the increased metabolic rate being directly proportional to the amount or degree of thyroid intoxication. This increased metabolic rate results in a loss of weight and strength, even tho the body

tries to compensate by manifesting excessive appetite and thirst. Abnormal excretion of urea and phosphoric acid, with an abnormal oxygen intake and carbon dioxide output, occur. Often there is a glycosuria.

5. *Cardiovascular Signs and Symptoms.*

—There is a general vasodilatation resulting in hot flushes, the sweating, and the sense of heat, of which these patients frequently complain. A low blood pressure results from the peripheral dilatation of the blood vessels. There is an increased pulse rate which persists even during sleep. The heart frequently pounds most distressingly against the chest wall, and there is usually an abnormal pulsation of the large arteries. In addition, the heart may be dilated, and there may be found functional murmurs.

6. *Gastrointestinal Signs and Symptoms.*

—Diarrhea and vomiting are not so very infrequent. Gastrosuccorrhea and hyperacidity are the usual findings upon examination of the gastric contents.

7. *Muscular Symptoms.*—There is general muscular weakness which in some cases is very pitiable. The degree of easiness of fatigue, general lassitude and giving way of the knees is directly proportional to the degree of thyroid intoxication.

8. *Tremor.*—Tremor is a rather prominent symptom. This is most marked when the arms are outstretched and the fingers are extended. This tremor is made worse by exercise and is benefited by rest. In some severe cases of hyperthyroidism the entire body trembles.

Such a list of signs and symptoms which does not contain some of the findings of less importance makes us certain that few cases of hypersecretion of the thyroid gland will be overlooked if we are careful in our history-taking and thoro in our examinations.

THE PREVENTION OF NERVOUSNESS.

BY

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Since functional nervous disorders are due to repressed complexes, the way to prevent such disturbances is to prevent the formation of complexes. Now a complex is formed by the repression of emotional experiences or emotional ideas, or both; therefore, to prevent the formation of complexes it is necessary to prevent repression. Repression tends to begin in childhood, and that is why a first step in the prevention of future possible psychoneuroses should be taken at that time.

The way repression starts is this: The child is a bundle of activities, some of which are useful to him and to society, and some of which are not. Parents, other children and nurses are his society and they decide which of his experimental moves shall be permitted and which not. Those which are not permitted are punished in one way or another. Thus the child gradually learns what he may and what he may not do without incurring the displeasure of his personal environment. Thus, too, the unconscious memories of past punishments become repressing forces which keep down natural instinctive tendencies.

If these instinctive tendencies are kept in check merely by blind fear, they become separated from consciousness and thus are no longer amenable to conscious control, but become complexes, ruled only by force, and manifesting themselves by symptoms of one sort or another.

Therefore, the way to prevent complexes forming is to substitute for fear, in the control of instincts, conscious understanding

and socially satisfactory self-direction and development. This means, of course, the providing of proper and adequate opportunity for the development of instincts and training, and training in the higher forms of expression.

One of the most significant aspects of nervousness and functional nervous disturbance is the prolongation of infantile instincts into adult life. To be concrete, the instinct of sucking sometimes is prolonged in youth and we have the child who has to be dismissed from school because he persists in sucking his thumb. Obviously the individual has to be trained to become a possible member of society. Aggressive and cruel instincts have to be curbed and their motive power directed to higher aims. Personal and moral education, then, is the way to prevent possible future functional nervous breakdowns. Such education provides adequate forms of expression, of a socially serviceable sort, for instinctive tendencies which, if not provided for, will tend to wreck the person who possesses them; and it also provides normally adequate barriers against socially and personally destructive tendencies which unless controlled would result in self-destruction. To the socially very sensitive child ordinary punishment is not necessary to create repression. The mere idea of social disapprobation is sufficient to check the normal development of the active instincts, because inevitably they come in conflict with the active instincts of others, and the sensitive child shrinks back before the more aggressive displeasure of his playmates when they do not get just what they want.

Now, when the sensitive child shrinks into himself, he substitutes phantasies and day-dreams, in act or in imagination, for the active participation in the realities of

daily life so necessary for normal personal development. This is the beginning of what much later, perhaps, manifests itself as a nervous breakdown.

When such a shrinking into himself, or introversion, to use the more technical term, is first noticed, the parents should endeavor to find out what the child is thinking about. Indeed, the first thing parents should do if they wish to prevent possible future nervous or mental breakdowns in their children is to learn, if they can, in intimate detail, what really is going on in their minds. Childhood is the time to notice all such beginnings of the pathological, because then the trouble may be taken in time and prevented from developing into anything dangerous.

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RUDIMENTARY VAGINA— A CASE REPORT.

BY

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Miss—, 21 years of age, never menstruated, but in good health; height, 5 feet, 10½ inches; thin, but strong.

Examination revealed a rudimentary vagina, about the size and depth of an average woman's thimble; sphincter vaginae, normal.

At the right and left, each side of the pubis, is a small breach which had been diagnosed as inguinal hernia. Probably these are the ovaries. The pubic hair is less than normal. Her tastes, manners and voice are decidedly feminine. She learns with ease, reasons well, and has just graduated from college *cum laude*, and with honors in mathematics.

Stomach Trouble.—Give babies with stomach trouble plenty of orange juice.—*Exchange.*



Gastric Disturbances of Endocrine Origin.—After discussing the subject in detail, Hernando (*La Medicina Ibero*, Madrid, Sept. 27, 1919) comes to the following conclusions:

1. The glands of internal secretion exert an influence on the digestive apparatus in two ways: thru the direct action of their products of secretion upon the muscular fibre and the digestive glands, or thru the intermediary of the vegetative nervous system.

2. In the development of every disease, there must always be a certain predisposition, for a sound organ should be able to resist all ordinary attacks without being affected, a degree of resistance which the man of today has not attained.

3. Stiller's asthenia (Glenard's splanchnoptosis), the appropriate soil for the development of many digestive disturbances, may be considered, together with other constitutional conditions, the result of congenital disturbances of the endocrine glands and the nervous system, which are the great regulators of all the phenomena of the organism.

4. Modifications in the functioning of the endocrine glands may be the cause of disturbances of the secretion of gastric juice.

5. Of these disturbances, the hyposecretory is more frequent than the hypersecretory type, no doubt because the former are often the manifestation of a congenital constitutional condition, which is so frequently met with in endocrinopathic patients, just as they may be the result of a disease (cancer, syphilis, tuberculosis, etc.) which induces the endocrine lesion or the cachectic condition of the patient when the disease is advanced.

6. One finds, however, many cases of hyperchlorhydria in patients with hyperthy-

roid symptoms (the extract of normal thyroid has a stimulating action upon the gastric secretion), and in others with suprarenal insufficiency (the extract of suprarenal capsules has an inhibitory action upon the gastric secretion).

7. Our clinical observations and the result of the experiments of other investigators permit us to establish a connection between suprarenal insufficiency and gastric ulcer.

8. Patients with suprarenal insufficiency, as a rule, combine conditions favorable for the development of gastric ulcer. Among these is the lymphatic condition, disturbances of the vegetative nervous system, persistence, and sometimes even an augment of hydrochloric acid in the stomach, and finally, the lessened resistance towards infection.

9. Altho we have noted gastric ulcer in patients with advanced symptoms of suprarenal insufficiency, it is not unlikely that slighter degrees of insufficiency may together with other causes (endocrine infection, etc.) play an important part in the pathogeny of ulcer of the stomach, as is proved by the frequency with which one meets with endocrine stigmatism in patients with gastric ulcer.

10. The harmful effect of fatigue and emotion upon patients with ulcer and hyperchlorhydria, may be explained by the suprarenal exhaustion which they induce, and hence, the beneficial effects which in these cases, follow rest and the use of suprarenal extracts.

Organootherapy for Children.—Apert writing in the *Presse Medicale*, May 26, 1920, calls attention to the fact that except for thyroid treatment in myxedema, very little use is made of organ extracts in pedia-

trics, and yet this is a particularly fertile field for them. The children's clinics, fetal findings and the results of experimental research all confirm that the suprarenal cortex, like the thyroid, stimulates the nutritional processes. But, with thyroid excessive stimulation, there is emotionalism and a tendency to lose weight, while with suprarenal cortex excessive stimulation, the tendency is to obesity and virilism. He advises to begin organ extract treatment with small doses for three days each week, watching the pulse, the weight and the excitability. With uniform backward growth, he has obtained the best results with a combination of thyroid and suprarenal powder, especially in the thin, anemic and frail. If the sexual development is precocious, he associates pituitary with the other extracts, with or without suspension of the suprarenal extract. In Mongolism, or depressed vitality from any cause, this associated organotherapy often whips up the sluggish development and renders the children easier to teach. He insists that administration by the mouth is as effectual as by subcutaneous injection. The powder can be given with a mouthful of food. Calcium seems to promote the action of thyroid extract, and magnesium that of the suprarenal extract. The indications for pituitary treatment will be found among the short and stout, hairy subjects, with precocious puberty; for suprarenal treatment, among the overtall, weak and apathetic, and, among boys, in those with a tendency to feminine characteristics; for thyroid treatment, among those with uniform backward growth, gait, speech and intelligence and delayed development of the sexual organs.

Hyperthyroidism in the Diagnosis of Goiter.—Rakestraw (*Virginia Medical Monthly*, Apr., 1920) states that tumor is by no means a necessary concomitant, nor is its presence or absence a necessary part of the syndrome of hyperthyroidism. In the symptomatology, tremor is often the earliest symptom. Then early comes a psychic symptom, a fear, a dread of some impending evil. The patient is depressed, emotional, yet controls the expression. The patient never loses hope, is never in despair. During attacks, a sense of epigastric pres-

sure is complained of—the mystical nervous indigestion—palpitation of the heart and tachycardia, from which she is at times awakened from sleep and with this is air hunger. Later she begins to lose weight, has diarrhea and the metabolic processes of the body become too much overbalanced by the hurry of the cells for the supply of nutrition to be utilized. There may or may not be exophthalmos, and there may or may not be an appreciable enlargement of the thyroid.

Treatment is surgical, with four contraindications:

First—It is unwise to operate too early following an exacerbation of symptoms, for the procedure will precipitate an attack and the convalescence will be necessarily stormy, if not more serious.

Second—Goiters of adolescence in girls are not surgical, the symptoms usually righting themselves as other endocrine glands adjust themselves to sex changes.

Third—The exophthalmic goiters of the aged—say about fifty—offer little at times in results, the concomitant tissue changes above enumerated having gone too far to promise relief commensurate with the dangers incurred by operation.

Fourth—When the blood pressure shows a wide constant difference in systolic and diastolic pressure, with an apex beat one inch to the inner border of the nipple line, demonstrating a heart dilatation with failure of compensation.

Use of Dehydrated Vegetables.—From the practical standpoint, Prescott (*American Journal of Public Health*, Apr., 1920) says the use of dehydrated vegetables is to be commended, providing they can be prepared from the best quality of raw material and by methods which conserve the food values to the highest possible degree. The great advantages of dehydration in making possible the utilization of materials which now go to waste, in reducing the cost of carriage, in their easy transportability to all parts of the world, in the saving of expensive containers and in the stabilization of agriculture and the price of materials, seem incontrovertible and argue strongly for the development of this industry.



Physical Therapy

Neoplastic Growths and the X-ray.—

Writing in the *Virginia Med. Monthly* (May, 1920), Pfender states that in his hands roentgentherapy has proved the sheet anchor around which other methods radiate to enhance the beneficent result. The application of Roentgen-rays in the treatment of malignancies of all kinds has been successful in a large percentage of cases, and X-rays alone sufficed. On the other hand, failure to effect a complete cure in some particularly interesting cases prompted Pfender to seek additional help. During the past four years he has broadened his therapeutic field to a point where he is beginning to feel that we are on the threshold of great possibilities that point to therapeutic visions, the like of which the world has not yet seen. Our inspirations and aspirations, tempered by judgment and confirmed by scientific research, should be enthused and vivified thru these profitable experiences and broadened observations of the past.

In the treatment of these cases every effort should be made to establish an accurate diagnosis. Proper tests for the exclusion of luetic infection are indicated in every suspicious or doubtful case. The excision of tissue for diagnostic purposes is, in my opinion, frequently not advisable in cases where the clinical picture is clearly descriptive of the nature of the lesion involved. In advanced cases, tissue may be removed immediately before thermocoagulation and pathologic study be done later. Experience has shown that biopsic indulgence, no matter how desirable from a scientific point of view, has entirely too frequently hastened general metastasis and death.

The methods employed by the author for the eradication of malignant growths at the present time constitute five agents which may be employed singly or combined and which are of value and importance in the order named:

1. Roentgenization.
2. Desiccation. Fulguration.

3. Electro-thermic coagulation.
4. Surgery.
5. Hypodermic administration of electrolized metallic colloids (copper, selenium, etc.).

Radium also fills a place of importance. The author gives an interesting report of thirty-seven cases.

Treatment of Atonic Constipation.—

We can divide our patients into two classes says Pitcher in the *American Journal of Electrotherapeutics and Radiology* (July, 1920)—the fat and the lean. The fat variety with the large pendulous abdomens are the most difficult to cure; they have lived upon the fat of the land, and besides being large eaters, they are indolent. They move slowly and sit a great deal. Fortunately stout people are seldom constipated because they like fat food and sweets and drink large quantities of water, but later in life they develop intestinal stasis and find they need something besides, as laxative mineral waters, salts, or other forms of physic.

Many of these cases have used large enemas of warm water so long that the lower bowel has lost all sensation to stimuli. The bowel is not paralyzed for it reacts to electrical currents, both induced and constant. This class of patients usually respond well to the slow sinusoidal current, which is most satisfactorily applied by means of a bifurcated cord attached to large pads front and back while the other cord leads to a metal electrode introduced into the rectum. Some obstinate cases may not yield to this method. The author then uses the static induced current every other day, beginning with five minutes' duration, increased to fifteen minutes. The technic is to cover the abdomen with a moist pad, one made with clay is preferable, then a Snow metal electrode is introduced just inside the sphincter ani muscle; with the rheophores leading to the outer coverings of the leyden jars, the slowest possible current is used beginning with short spark gap; after a few treatments have been given a spark gap of from two to four inches can be tried; altho this is a very powerful current it is entirely painless, but if given too long the patient will feel exhausted.

With these old obstinate cases of constipation, especially where there is a rectal pouch, this is the treatment *par excellence*. In regard to the thin constipated patients—and thin people are nearly all constipated—they can nearly all be cured if they are anxious enough to cooperate with you and will follow instructions.

They are to take from 6 to 8 glasses of cold water per day, and take more food of a variety which will leave a residue, they should take oranges and grape fruit with the pulp, baked apples with the skin, and grapes with the seeds masticated, baked bananas, oat meal, whole wheat bread, baked potatoes with the skin, salads with plenty of oil, plenty of raw milk, cream and butter, ice cream, with good desserts, a glass of malted milk or Mellin's food at bed time.

The lean patient is a skimpy eater and drinker, he needs a good amount of food going into the upper alimentary canal in order that it may push along the residue in the lower part. The bowel should not be overloaded, but there should be something for the muscular coats to act upon when the treatment stimulates the torpid bowels to a healthy action.

Realizing the importance of overcoming this obstinate condition, we must use every effort to improve the general health. Physical exercises directed to strengthen the abdominal muscles should be used night and morning, and the patient should live an outdoor life as much as possible. When the bowels do not yield to this regimen, we know that pathologic changes have taken place to the extent of causing a partial paresis of the muscular coats of the bowel, the valves break down and the mucous membrane loses tone, creating a true intestinal stasis. Fluoroscopy, or an X-ray picture, reveals the descending colon and rectum dilated and loaded with feces. This condition is caused in child-bearing women by the long continued pressure of the head at childbirth, or by heedlessness in allowing feces to accumulate in the lower bowel without attending to the calls of nature.

But whatever the cause, the condition is absolutely incurable without the aid of some mechanical measures. We know that laxative drugs increase the difficulty, and that enemas weaken and dilate the coats of the bowel still more.

The mechanical means Pitcher uses to overcome this disease have proven satisfactory in a large proportion of cases. They are, the sine wave current, the static induced current, and mechanical vibration.

The static wave current used per rectum does not produce results except in isolated cases, but used as an auxiliary to other modalities, with a large flat electrode over the hepatic region, it stimulates the liver and bile ducts and aids metabolism. The lumboabdominal applications of faradism, galvanism, or the sinusoidal currents alone are not sufficient. The author has found the slow sine wave current of the most benefit, a warm, moist pad is placed over the descending colon, and another pad (3x6 in.) over the lumbodorsal region, connected to the generator by a bifurcated cord. The other cord leads to a Snow rectal electrode. Care should be observed not to give too strong or too long treatments in the beginning.

The Roentgen-ray Treatment of Thyrotoxicosis.—Holmes and Merrill (*Jour. A. M. A.*, Nov. 29, 1919) call attention to the fact that the treatment of exophthalmic goiter and other forms of thyrotoxicosis by the Roentgen-ray was recommended as early as 1905. A considerable amount of literature on the subject has since accumulated. In 1916, Pfahler was able to collect seventy-six papers on the treatment of exophthalmic goiter by the Roentgen-ray. Nevertheless, outside of a few clinics, no general attention has been given to this subject. During the past five years we have treated, in the Roentgen-ray department of the Massachusetts General Hospital, 262 patients for thyrotoxicosis. The results of this work have been sufficiently encouraging, the authors think, to warrant a more general use of this agency in the treatment of thyrotoxicosis.

Experimental and investigative work has shown that it is possible to destroy the glandular structures by subjecting them for a sufficient length of time to the Roentgen-ray or to radium. It is also generally known that the action of this form of light is most destructive on the higher organized type of cell and that the tissues of the lymphatic system are particularly vulnerable.

Anatomically, the thyroid gland is some-

what allied to the lymphoid structures, and change in it is often accompanied by an enlargement of the thymus. (Kocher found the thymus enlarged in 50 per cent. of his operative cases.)

If these statements are true, and the amount of irradiation sufficient to destroy the thyroid gland is not greater than that which will produce an injurious effect on the skin, we should be able to remove part or all of the gland by means of irradiation and produce results similar to those of surgery without the dangers incident thereto.



By-ways and High-ways

Grow a Beard and Live Long!—It required a whole book to make people submit to the philosophy of "eat and grow thin." It required another volume to drive home the principle of "laugh and live long." But it required but a brief phrase to persuade half the nation to "grow a beard and live long." It is the opinion of Dr. Arthur Macdonald, of Washington, that shaving shortens the all too brief span of life. The reason given is that shaving induces neuralgic and other complaints and thus tends toward the shortening of life. But Dr. Macdonald need not go into details to convince millions of sufferers from the inescapable matutinal torture that it is an abomination and a danger. In all probability ninety-nine shaving men in a hundred paused only to read the first sentence in the all-important decision and immediately rushed for the old mug and the baneful blade and consigned them to perdition. It is only the scientific mind that will be interested in the details. The Washington physician has barely scratched the surface of a precious truth in designating neuralgic pains as one of the dangers of shaving. These dangers are infinite and they are a menace not only to life, which is but a paltry thing, but to happiness. Any wife of a shaving man will subscribe to this. Any woman who has had to take her morning coffee in the company of a grouchy, snappy, scowling husband who, in his hurry to get over the dull business of wielding a dull

blade, has either inflicted a fresh wound or reopened an old one will acknowledge this. The practice of shaving every morning is not only a menace to life, it is a menace to the home. If the divorce court records were closely scrutinized for evidence on this head it would undoubtedly be observed that most divorces had their origin in differences between husband and wife, which occurred either immediately before or soon after the abominable practice which civilization demands.

Welcome as this news is to those who shave themselves, it is triply welcome to those who for years have submitted to the last remaining tyranny in America—that of the barber. This class, whose sleep has for a long time been disturbed by dreams not of a Damocles sword, but of a razor suspended by a hair over their throats, will find consolation and courage in the discovery. With them it is not only a question of life, but of livelihood. With the constant threat on the part of barbers of a dollar shave, they have long sought a better excuse than economy for the growing of a beard. They have it now. They can quote a scientist to sustain them. And they can quote the Bible. The secret of longevity of the old patriarchs of biblical literature, men who attained the ripe age of two and three centuries, is at last out: they did not shave. Go thou and do likewise!

Late Studies in Autoserotherapy.—

From Paris comes the interesting report that cases of paralysis, locomotor ataxia and tabes, hitherto regarded as hopeless, are now being cured by a new system of autoserotherapy, discovered by Dr. Odin, a specialist in the Pasteur Institute of Paris. This latest product of French medical science is the result of seven years' intensive research and hundreds of experiments. Dr. Odin's discovery has won many friends among the profession, who declare that it involves no risk whatever to the patient since no drugs or dangerous poisons are employed. The treatment involves the drawing of about 250 cubic centimeters of blood from the arm of the patient. This is then separated into serum and red corpuscles and a portion of each is heated several times to various temperatures. By this

process, it is claimed, the toxic elements in the blood are converted into antitoxic substances and a serum is evolved which is specific for the disease in question. This serum is then injected either into muscular tissue or, in more serious cases, directly into the spinal fluid itself. Further details of this important medical experiment are not yet at hand, but should they prove to bear out the claims of the discoverer an advance of the most vital importance will be achieved in the field of therapeutics.

Health Education.—In the competition for the interest of the delegates at the recent meeting of the National Education Association at Salt Lake City, the health education group won first honors, according to the reports of returning delegates and the newspapers.

Instead of telling the delegates what ought to be done to improve health conditions among school children, they told what is being done, and they told it in a vivid dramatic way that conclusively demonstrated the change which has come over health instruction during the past twenty years. When the delegates were gathered to hear a learned treatise on the present status of health education in the schools, they were suddenly amazed to see a beautiful fairy come flitting down from the roof of the Tabernacle where 5,000 people were assembled.

The health fairy was Miss Ann Raymond, a New York City health nurse. She told how dramatic methods of teaching had replaced the old "precept and line upon line" method of the physiologies. She told how the House of Health had been built for her by children everywhere, how each brick and shingle and window pane represented some health achievement; cleanliness, right food, regular habits, lengthened hours of sleep, play in the air and sunshine. In language the children could understand she told of the adventures of Cho Cho, the wonderful health clown, and of Johnny Carrot, Patty Spinach and Jimmie Onion. She told how Old Woman Ignorance would have imprisoned Jimmie Onion forever had not Old Dog Publicity come to his rescue at the dreadful moment.

It is encouraging to realize that this

method of health instruction is becoming increasingly popular with educators throughout the country. Most of the states are following the progressive lead given by New York State and are passing compulsory health education laws. With health education required and made interesting, the progress gained will steadily increase.

Dr. Dudley A. Sargent, the physical training expert comes forward opportunely with statistical figures to prove the beneficent effect of the long battle for healthier school children. He finds that American girls have increased an inch in height and gained ten pounds in weight since the time of the World's Fair at Chicago, when he tabulated statistics regarding the American physique.

Dr. Sargent also announces that students at men's colleges in the same period have added nearly two inches in height and nine pounds in weight during the same period.

Much credit is due the National Physical Education Association for their indefatigable efforts in behalf of public health education. Propaganda such as they promote, is still needed to convince the conservative-minded educators that they must do more than comply with the letter of the health education law. Interpretation of the law varies widely in New York City according to the personality of the principal. In one school the principal puts health on a par with or above any other subject. The result is of tremendous significance. A recent examination showed that the average child in this school weighed five pounds more than the average child in all the schools.



Cosmetic Grafting of the Scalp.—Passot (*La Presse Medicale*, Apr. 17, 1920) describes his method, which has been greatly magnified in importance by the daily press, as follows: It is intended as a cosmetic cure of baldness, and is comprised under cosmetic surgery in general. Passot has now 127 cases to report of cosmetic surgery of wrinkles, and has extended his work in other directions as the removal of baldness that is at present largely in the air. The sub-

ject is not new, for German surgeons have practiced it, at least in a small and tentative way. Thus small tufts have been grafted into the bald scalp, altho without much success. Passot would perform autoplasmic grafting from a hairy to a bald area of the scalp. The temples and occiput are largely immune to baldness, and zones or bands can be switched from its bed in the hairy region to the normal junction of the frontal hair with the forehead. By proper care, the hair follicles being disturbed, long hair may grow on the grafted area and this may be brushed backward to cover the bald area. It is not suggested that more than two successive implantations be made for the remaining natural hair could hardly be made to spare further transplants. In certain cases a second flap may be placed behind the first. The optimum of interval is three weeks. The operation may be varied in several ways. The author has had six perfect results and probably not a few failures, or at least he warns of various technical errors which invalidate the result. He used local anesthesia with great success and states that hemorrhage was but trifling. After the first month there was enough hair on the grafted surface to conceal the incision and after two or three months the hair was so long that it could readily be combed back to cover the remaining bald spot.

Care and Treatment of Whooping Cough Patients.—Winters (*Medical Record*, Jan. 10, 1920) reports statistics showing the high death rate from whooping cough. He said that in 1916 it caused almost as many deaths as scarlet fever and typhoid fever combined, both in New York City and New York State. In 1917 it caused almost twice as many deaths as scarlet fever. Three-fourths of the deaths from whooping cough occurred in children under one year of age. It caused more deaths during the first year of life than any other disease. During the first year of life whooping cough was carried to the child in clothing infected by the whooping cough patient. Carelessness in attendants disseminated it. Prevention in children was permanent prevention, as immunity was attained at about the tenth year. Adults supposed to have whooping cough were usually cured by purgation and the cough shown to be a digestive reflex cough. The whooping cough patient should be kept indoors at a temperature of 65 degrees F., with fresh air, but no draft. The bedroom must not be cooler than 65 degrees F. Variations in temperature induced repeated coughing attacks and complications, and it was the complications that were responsible for most of the fatalities of whooping cough. Codeine and bromides might be given. After whooping cough children were extremely susceptible to repeated attacks of bronchitis and were also predisposed to tuberculosis.

Dr. Samuel S. Adams, of Washington, took issue with several of the statements made by Dr. Winters. He said he felt that many could not accept the statement that whooping cough was conveyed by the clothing. He recalled a

symposium on whooping cough before the Society some years ago. At that time the consensus of opinion was that climate did not have much influence on the course of the disease, that the child with whooping cough should have good food, fresh air and hygienic surroundings and should then be left alone so far as treatment was concerned. As to the treatment of whooping cough with vaccines, a variety of opinions was expressed in the literature. He was of the opinion that vaccines had no effect in preventing the disease or in controlling the paroxysms. Some children got along well without much treatment while others required nerve sedatives. He could see no reason for making a mistake in differentiating a digestive reflex cough from the paroxysmal cough of whooping cough.

The Treatment of Eclampsia by Transfusion of Blood.—Blair Bell (*British Medical Journal*, May 8, 1920) advocates the use of blood transfusion in the treatment of eclampsia. In 1911 Dold showed that saline extracts of many viscera contain a toxin, lethal to animals, which is completely neutralized by normal blood serum. To this toxin he gave the name "Organ-gift." The nature of the substance has, however, not yet been determined, altho many investigations have been made. Obata, following the work of Dold and others, has recently made an important contribution to the subject from an obstetrical point of view. This investigator has found that, when an extract of fresh human placenta is injected into mice, symptoms resembling those of eclampsia are produced and that there is no difference between the toxicity of the extract of placenta from a normal case and that of the extract of placenta from a case of eclampsia. Further, Obata observed that fresh serum from the blood either of a normal person or of an eclamptic patient produces similar symptoms in mice, but no increase in toxicity was noted in regard to the serum of eclamptic patients. When, however, the extract of placenta was mixed with serum from a normal person—and it was found that sex and pregnancy did not affect the issue—the toxins of the placental extract and also apparently of the serum were neutralized; but, on the other hand, the serum from the blood of an eclamptic patient failed to neutralize the toxin of the placenta.

It appears, therefore, that there is some substance in normal blood that neutralizes the toxin of the placenta, and it seems curious that this is present in the blood of males as well as females, until we remember that the fetus is the product of the male no less than of the female.

Confronted with a very serious case of eclampsia, blood transfusion was tried with the hope of introducing an antitoxin into the maternal blood stream. The husband, a robust-looking young man, was the donor. His blood was found to be in group IV, so 500 c. cm. were withdrawn into citrate solution from his median basilic vein. Approximately the whole of this was transfused into the median cephalic vein

of the patient, with a very satisfactory result. Dr. Bell says should another case come under his care, he would perform blood transfusion at once, hoping to save not only the life of the mother, but also that of the child. It probably would be necessary to repeat the transfusion at the end of parturition. He emphasizes the fact that this is only one case, but that if others get results and the present appalling maternal and fetal mortality can be reduced, something will have been accomplished. Under those circumstances the preparation of a human antitoxic serum might be worthwhile in order to simplify treatment.

Treatment of Urethral Caruncle.—For the past four years Crenshaw (*Minnesota Medicine*, Feb., 1920) states that he has employed the following method, which has proved very satisfactory in 118 cases:

1. The patient is placed in the lithotomy position and the parts are thoroly cleaned with soap and water. A swab of cotton on a toothpick saturated in 10 per cent. cocaine solution and lubricated with a soluble lubricant is inserted into the urethra and left for ten minutes.
2. The labia are separated by an assistant. On examination the caruncle is found to consist either of a single tag on the posterior wall or of posterior and lateral masses. Each tag is picked up with a small Graefe fixation forceps and clamped off in the long axis of the urethra with a special clamp which has a broad blade and a narrow crushing edge. Care is taken to include in the bite all the caruncle and none of the submucosal structure of the urethra.
3. The growth is cut off close to the upper surface of the clamp; the crushing of the pedicle prevents all bleeding and makes an accurate removal possible.
4. The cut surface is thoroly seared with acid nitrate of mercury solution applied with a wooden applicator. An excess of the acid to run over the blades of the clamp and cauterize other areas of the urethral mucosa is cautiously avoided. All tags are removed in the same manner. When removal is complete, one or more narrow longitudinal white lines about 1 cm. by 1 mm. mark the cauterized tissue. Within a week all evidences of the operation disappear. The advantages of this method are: (1) The entire growth can be removed at a single operation; (2) this can be done under local anesthesia; (3) there is no bleeding to obscure the field; (4) scar tissue is reduced to a minimum and is so placed as to avoid prolapse of the mucosa; (5) symptoms are relieved almost immediately, and recurrences are infrequent.

The Treatment of Visceroptosis.—The treatment of visceroptosis is considered under the following subheads: Hygienic, dietetic, mechanical and operative. Of these, Wilkinson (*The West Virginia Medical Journal*, July, 1920) claims that the mechanical treatment is primarily the most important. There are many bands, belts, corsets, etc., advertised as a sure cure for all ailments. However, this is not

true because every case is a law unto itself and unless the support is properly made and fitted it tends to aggravate the symptoms. When it is definitely determined that a patient needs an abdominal brace most careful measurements should be taken and followed in the manufacture of same. The objection to this type of support is the inability to keep it in position. The most satisfactory mechanical support is made from four adhesive strips, three inches wide and long enough to extend from point just to left of spine to the right over anterior aspect of abdomen to point just beyond left iliac crest. Next strip is of same length and is applied in the opposite direction; third piece from iliac crest to same point on opposite side and fourth piece reinforcing others in the back. It is essential to place this adhesive just above the pelvic bone as the pressure must be from below upward. Either shave the pubic hair or place piece of gauze over this area. When these are properly applied any degree of support can be maintained without danger of slipping. The objection to adhesive is the irritating effect upon the skin; however, if changed once a week this is reduced to a minimum.

A majority of cases suffering with either ptosis or adhesions around the cecum should be thoroly studied and when necessary a careful radiographic examination should be made of the gastrointestinal tract. Of course it is possible to have adhesions complicating ptosis; in this type of cases we should free the adhesions and give them the proper support.

In very select cases and in the hands of trained surgeons certain procedures can be carried out that will give these patients great relief. In no case should surgery be advised until every other line of treatment has been tried.

In conclusion, Wilkinson emphasizes two points:

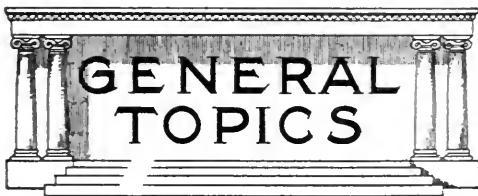
1. That a large majority of cases with so-called chronic appendicitis are not suffering with appendicitis, but their symptoms are really referable to visceroptosis. Under no circumstances should these cases be operated until a most careful examination has been made and a correct diagnosis established.
2. That the most satisfactory treatment for abdominal visceroptosis is rest in bed, when necessary, regulated exercise, fresh air, wholesome food and a proper fitting abdominal support, preferably one made from adhesive plaster.

Salicylates in Acute Rheumatic Fever.—At one time the salicylates were regarded almost as specifics for rheumatism. Then while they did not fall exactly into disrepute, they were deposed from their former high therapeutic pedestal (*Med. Record*, July 3, 1920). At the present time salicylate therapy is looked upon as useful in the treatment of rheumatism, but secondary on the whole to diet, except for acute rheumatic fever, in which form of the disease its effects are often striking. Dr. Paul D. White, writing in the *American Journal of the Medical Sciences* for May, 1920, is enthusiastic

concerning the results of salicylate treatment of acute rheumatism. He had seventy-three soldiers under his charge at U. S. Base Hospital No. 6, and states that the most striking lesson learned from the series of cases of acute rheumatic fever at the hospital was the remarkable response to forced salicylate treatment. Almost invariably there was an abrupt ending of joint pain, swelling, fever and malaise. White remarks that at one time there were two wards full of cases of rheumatic fever. Salicylates were given in large doses to patients in one ward. It was their only medicinal treatment and they did wonderfully well. The other patients in the other ward were given no salicylates internally at first, but received local treatment and phenacetin and veronal by the mouth. Their pain and discomfort were dulled to a slight degree, but after two or three days of suffering the salicylates were given to them in large doses, followed by great and rapid relief.

Injections of Typhoid Vaccine in Various Diseases.—Commercial typhoid vaccine, or typhoid paratyphoid vaccine, prepared for prophylactic inoculations, has been used by W. W. Cadbury (J. A. M. A.) with good results in acute arthritis, rheumatic fever, chronic arthritis, syphilitic affections, various forms of neuralgic pain, psoriasis, lichen planus, itching of eczema and erythema induratum.

Dental Surgery and Organic Heart Disease.—Calvy (*Journal American Medical Association*, May 1, 1920), cites cases in which an existing heart affection was made worse by extraction of teeth. He ascribes this to lack of drainage of the infected area, such as an apical abscess. After extraction, the tooth socket is filled with a firm clot of blood, which precludes drainage and affords an ideal soil for the rapid growth of bacteria; and the traumatism to the structures around the tooth greatly increases the opportunity for absorption. It is under such conditions that there is a rapid rise of temperature, increased pulse rate and an acute attack or exacerbation of a chronic trouble, as exemplified by the history in two cases cited.



Medical Problems in Relief Work in the Near East.—Medical relief work in the Near East presents many vexatious problems. The *Acorne*, official organ of the Near East Relief in Constantinople, devotes space in each number to a discussion of these difficulties in order that physicians in one district may learn how their

problems were solved by relief workers in another. Dr. John W. O'Meara, graduate of Harvard Medical College, and formerly of Worcester, Mass., wrote in the last number of the *Acorne*:

"Judging by those seen in clinic and hospital, I should say that more than half the people in the Caesarea district have roundworms. Santonin, said to be a reliable vermifuge, I have found worthless (using it in doses up to five grains, repeated two and three times). In a dozen instances at abdominal operations, I have seen intestines lined with the parasites, containing thirty to fifty at least, yet when full doses of this vermifuge were given later, and usually repeated, each time the details of a well-recommended routine being carefully observed, not more than three or four worms have been obtained. In the clinic, where therapeutic details have to be left to the patient, results are even more discouraging. I am trying to get hold of a better drug than santonin.

"For favus, the natives here shave the heads and paint on a thick layer of pitch, which is removed in one piece, preferably under anesthesia, in from ten to fifteen days. The idea is to have the hair grow into the pitch and be removed with it. It seems good in theory, but thus far I have not made sufficient experiments with the treatment to judge as to its efficacy."

Near East Relief workers say that one of the great handicaps in the medical relief work is the native doctor. He usually refuses to perform operations, leaving it to the barbers as in days of old. Infections of the worst sort result, and nurses with the organization are kept busy caring for the ills developed from "barber operations."

Disappointments After Gastroenterostomy.—In an interesting way, Moynihan (*British Med. Jour.*, July 12, 1919) discusses the reasons for the failure of many operations for gastroenterostomy. These cases he arranges as follows: *First*, because the operation has been performed in the absence of any organic lesion justifying it. This is by far the most frequent cause. The conditions for which the operation has been needlessly performed are: (1) In functional disorders of the stomach, and (2) in cases of chronic diseases elsewhere, such as chronic appendicitis, tuberculous disease of the intestine, gall-stones or carcinoma of the gall-bladder, cirrhosis of the liver, splenic anemia, tabes dorsalis, disseminated sclerosis, vomiting of pregnancy, lead poisoning, prolapse of the kidney, colonic adhesions and epigastric hernia. The *second* cause of failure is that the operation has been incomplete. *Third*, defects in technic, such as that the opening is too small, or that it is badly placed, or for other reasons which he mentions. *Fourth*, late complications may develop after an operation performed in a case requiring it, without any technical flaw. Among such complications may be jejunal ulcer, carcinomatous change in a chronic gastric ulcer. The symptoms after unsuccessful gastroenterostomy he tabulates as follows:

Pain may be due to:

1. A revival of activity in an unhealed ulcer.
2. The presence of a jejunal ulcer.
3. Adhesions crippling the proper action of the stomach or jejunum.
4. The presence of some other disease which has been overlooked at the operation—chronic appendicitis, cholelithiasis, and the other diseases enumerated above.

Hemorrhage may be due to:

1. The separation of a suture.
2. Continued activity in a duodenal or gastric ulcer.

3. A jejunal ulcer.

4. The presence of some other disease which has been overlooked, such as splenic anemia, cirrhosis of the liver, etc., as enumerated above.

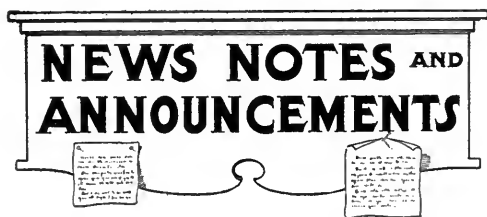
Vomiting may be due to:

1. Obstruction as a result of any of those technical defects in the operation which I have already named.

2. Functional causes.

Diarrhea may be due to:

1. Too rapid emptying of the stomach.
2. Some pathologic condition of the intestine, or other viscera, which has been overlooked.
3. The offensive character of the escaping contents.



Bubonic Plague in Mexico.—It is reported that all traffic by rail or steamship to Vera Cruz, with the exception of that over the railway to Jalapa, has been ordered suspended on account of the presence of bubonic plague in Vera Cruz. Major A. R. Goodman, M. C., U. S. Army, attached to the American Embassy at Mexico announced, June 5th, that the situation is not so serious as the reports indicate, and that the Mexican medical authorities are handling the situation efficiently and taking every precaution to prevent the plague from spreading to other parts of the country. According to the latest reports from Vera Cruz the number of cases of bubonic plague so far discovered in that city is twelve, several persons having already died. No new cases have occurred lately. The authorities have accepted the offer of the United States Government to send a sanitary detachment to assist in combating the disease. It is reported that the outbreak is now under control.

American Nurses Wanted in South America.—Miss Agnes S. Ward, superintendent of nurses in the New York City hospitals, has received appeals from Rio Janeiro and Bogota for five hundred women to establish training schools for nurses in South America.

United States Blind Population.—The 1910 census reported 57,272 blind persons in the United States. A special follow-up schedule conducted by the Bureau of Census showed that 4,463 of those reported blind by enumerators were not blind. Returns from 29,242 blind persons gave both parents blind in 31 cases; one parent blind in 1,042 cases; neither parent blind in 27,580 cases; no return made as to vision of parents in 489 cases.

Prizes for Anesthesia Research.—The National Anesthesia Research Society has announced prizes aggregating \$200 for the best papers on anesthesia research.

Educating the Rural Districts in Social Hygiene.—In line with its purposes of bringing health education directly before the people, particularly in remote rural districts, and of cooperating with all existing public health agencies and societies, the American Red Cross has just appropriated \$10,000 as a donation to the American Social Hygiene Association to aid that organization in establishing a traveling exhibit on social hygiene. The exhibit will be mounted on a motor truck and will consist of a motion picture machine with films and slides on social hygiene, a fireproof booth that can be set up in schoolhouses or churches, and large quantities of literature and posters. A representative will precede the exhibit into each community in order to line up its special problems so that they can be dealt with specifically.

The American Social Hygiene Association was formed in 1914 by the Union of the American Vigilance Association and the American Federation for Sex Hygiene, and later merged with the New Morrow under the name of the Society of Sanitary and Morale Prophylaxis. During the war, having secured from private sources some half million dollars, it supplemented the governmental efforts in combating venereal disease by cooperating with official agencies that were promoting the campaign in and around military and naval establishments.

The Association is now back on a peace-time program, but greatly enlarged and strengthened by its own experiences as well as that of the nation generally during the war. Its program has proved successful, and has been adopted in substance and expressed in terms of administrative organization and legislation by almost every state in the union.

Recently the Board of Health of North Carolina suggested to the Association the value of a travelling exhibit which could go through the rural districts and bring their special problems squarely before the communities. Through the American Red Cross this was made possible. The first demonstrations will be made in North Carolina, and will be followed by demonstrations in other states. The Board of Health will pay rent for the exhibit which will cover actual expenses.

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Current Medical Literature.—In the *American Journal of Clinical Medicine* of April and June, 1920, appeared interesting editorials concerning "Writing for Publication" and "How and What to Write for Publication." The problems involved are sufficiently significant to warrant a taking of stock as to our own purpose and intentions.

The editor of a medical journal must write for the medical profession, consisting of advanced thinkers and those who, by virtue of location and occupation, find it difficult to keep abreast of advancing clinical methods and lack opportunity for increasing their clinical experience save as it is developed by routine practice. It is patent, that any article published will create a different reaction among members of each of these groups. Each member, however, is entitled to secure from his medical journal something that will attract his attention, stimulate his thought, and in a reactionary manner benefit his general well-being. If one were to publish purely from the standpoint of specialism, the great mass of practitioners would be bored by hypertechnicality. If one were to accept articles merely on the basis of material interesting to the average practitioner, the advanced theories of medicine would occupy little space, and those interested therein, would be obliged to seek elsewhere for their intellectual pabulum.

It is true that there are numerous journals written specifically to meet the needs

of those interested in special phases of medical and surgical work. There are, however, large numbers of physicians throughout the country who, while not laying claims to specialties, are obliged to keep abreast of modern ideas and technic involved in one or more of the acknowledged specialties of medicine. For this reason, it is imperative that a high class medical journal should recognize the wants of its subscribers and should seek to satisfy them. There is also a definite obligation on the part of an editor to make the plane of literary merit high, so as not to offend the taste of those most sensitized to proper English.

The editorial section should contribute material that is thought-provoking, intellectually invigorating, or interpretive of the new ideas entering into medicine from all directions. It is not a natural medium for the expression of religious or political views, save in so far as these may be directly related to medical progress. There must be evidenced high standards of medical ethics, in the most modern interpretation of the term, and sufficient moral courage to take a firm position upon any topic requiring the determination of editorial opinion, the editorials must freely express the principles of the journal clearly and without straddling, in so far as accurate knowledge permits, maintaining at all times a position of open-mindedness, despite the appearance of editorial dogmatism.

Unfortunately there are many of the

articles selected for publication from the large number submitted that require more or less re-writing, in order that they may be couched in correct English, and the basis of this editorial service lies in the acceptability of a manuscript as measured by the ideas of the author. Frequently, what appears to be an excellent article in the mind of the writer, fails to achieve the approbation of the editor. The determining factors in judging the usefulness of an article are—ideas, timeliness, originality, simplicity of expression, practicality, or reasonableness of theorization. Occasionally compilations of literature or case reports are of value when there is completeness in compilation, or special need of such collective abstracts.

There must be considered the rarity of the subject concerning which the literature is compiled, or the rarity of the disease reported, marked variation from the type of the condition described, or some deviation from wonted methods of treatment.

The reasons for plunging into medical writing are varied, but the editor is not so solicitous concerning the motives of authors, as he is concerning the value of the submitted manuscript in terms of interest to subscribers and its general usefulness to the medical profession.

Individual medical journals have their own predilections fairly well established, so that their contributions are weighed fairly evenly in the editorial scales. As a general rule, it is not difficult to determine whether an article is written merely for the sake of seeing one's name in print, from a *cacoethes scribendi*, from a desire to reveal a discovery in medicine, from a wish to make a suggestion to the profession, in the interest of the wider testing of a theory, or a therapeutic agent, or because of a peculiar ability and willingness to serve as an additional

agent in the transmission and interpretation of scientific facts and principles. Frequently, articles submitted are the results of an earlier request to read a paper before some medical society, civic organization, or social conference. In these instances, the point of view of the writer has been adapted to the needs of his subject, as determined by his first audience. When these are offered for publication it is because a larger group of readers is deemed desirable for the subject-matter. Having met the needs of one group it may be regarded as of interest to the profession, providing it bears some relation to professional duties or responsibilities.

Writing should be recognized as an art that merits study and application. The basis of all writing is having something to say, saying it briefly, brightly, accurately and practically. It should be expressive of the author and reflect his ideas, ideals, and indeed, his personality. While writing is designed for readers, the reading is based on a common interest. The choice of words, the manner of discussion, and the method of elaborating ideas are the tests of readability. Failure to transmute ideas frequently results from redundancy, dullness, ambiguity, tautology and looseness of expression. In submitting manuscripts, the ideas which serve as the basis of the article must be adequately clothed in words, so that the literary eye is not offended by a ghastly skeleton that holds the attention, while the beauty of the thought is beyond perception. The published article is for the advantage of the writer, but more so for the benefit of the readers.

It is impossible to publish a medical journal, in which every article is of equal value to all readers. Nor indeed, would it be possible to publish such a journal without having it become monotonous, stale and unin-

spiring. Variety of subjects, individuality in ideas and diversity in manner of discussion suffice to provide reading matter that will appeal to all groups in the profession, whether in rural or urban practice, general practitioner or specialist.

These represent the ideals in practical publication that AMERICAN MEDICINE holds. Thought, form, simplicity, accuracy, sincerity, honesty, timeliness, usefulness, practicality, cogency and literary merit, all enter into the editor's mind, in arriving at a decision as to the availability of a manuscript for publication. But back of all these lies a definite concept, that the reason for the publication of a manuscript is not the desire of the author, but the usefulness of the subject-matter for the readers of AMERICAN MEDICINE.

A Woman's Medical Conference.—

When in September, 1919, the first International Conference for Women Physicians was held, under the auspices of the Young Women's Christian Association, there was considerable interest in the breadth of the scheme which brought together women physicians from all sections of the world. There were representatives from Argentina, Canada, China, Japan, Norway, Russia, Siberia, Sweden, Switzerland and Uruguay gathered together with a view to determining in how far it might be possible to define a policy, useful as a determining factor in shaping future health plans.

The results of the conference are now published in six volumes dealing with The General Problems of Health, Industrial Health, The Health of the Child, Moral Codes and Personality, Adaptation of the Individual to Life, and Conservation of the Health of Women in Marriage. The compilation of the numerous addresses is a dis-

tinct contribution to the literature of medicine of the present day, as viewed with one eye upon the future. The real contribution is represented in the idea of health, as meaning the well-being of the entire personality. When one contrasts the average program of a national conference of almost any medical organization with the remarkable breadth of that presented at the International Conference of Women Physicians, one appreciates that the emphasis upon health has never been more adequately stressed, nor so well discussed. The fact that women physicians have recognized the value of physical well-being, and the complete fulfilment of life, is by no means remarkable considering the part played by women in recent years in articulating their ideas and ideals with practical living.

The conference brought out with great emphasis the importance and necessity of health educational work, organized more broadly and developed with greater intensity. The program in all its elaborateness served to unite women physicians on the basis of an international forum that planned to attempt the clarification of health problems along the line of basic principles.

A still more significant feature of the conference, as evidenced in the printed report lies in the fact that the speakers were selected with unusual care, to discuss subjects upon which they could speak authoritatively. There was no filling up of programs with mere names, nor was there a cluttering up of hours with useless topics presented by speakers of mediocrity, or of all too limited experience. The women were gathered together for serious and constructive consideration of life and its problems. As an illustration, one may take the papers devoted to Moral Code and Personality as contributed for the most part by such well-known writers and students as

Trigant Burrow, John T. MacCurdy, Edward J. Kempf, G. Stanley Hall and George S. Amsden. The *Adaptation of the Individual to Life* added such names as William A. White, H. W. Frink, Max J. Exner, Edith R. Spaulding. Whenever, in fact, a phase of discussion was to be presented, the conference provided a speaker whose words were sure to carry weight and whose ideas were the outgrowth of an unusual experience.

Under such circumstances, the conference was foreordained to be successful. Its attainments, as measured by results, are still intangible. The effect of the resolutions passed at the meetings will not be manifest for many years. The Young Women's Christian Association, in planning and fostering this excellent meeting for the interchanging of ideas among women physicians from fourteen nations of the globe, performed a distinct and valuable service. The character of the proceedings indicates a broad understanding of health and its problems, and a conscious appreciation of the necessity of working constructively with human beings, so as to hasten the time when life and health will have closer relation and there will be no dissociation between physical well-being, mental growth and moral development.

Industrial Problems and Health.—The industrial tendency towards reduced working hours was earlier interpreted as an evidence of sluggishness, or of a desire to secure large pecuniary rewards with minimal efforts. Slowly, however, it grew upon psychologists and physiologists that other factors of far greater import were involved. Studies of fatigue, investigations into accident causation, and inquiries into labor turnover revealed numerous facts which, hitherto, have been inadequately appreciated.

War and the studies of the British Health of Munition Workers' Committee sought to secure industrial readjustments best suited for securing a maximum output without a sacrifice of the health or personal efficiency of the workers. The numerous memoranda issued in all the warring countries bore witness to the valuelessness of stimulating employment without primary consideration of the industrial and physiologic results. Patriotism did not suffice to sustain human efforts at a high peak for long periods of time. Large accident and disease rates increased, while output decreased during periods of forced overwork.

The relation of fatigue to working capacity has led to an increased amount of investigation, a significant phase of which is presented in Public Health Bulletin No. 106, wherein Goldmark and Hopkins report on a comparative study of an eight hour plant and a ten hour plant which has been investigated under the general direction of Frederick S. Lee. Their conclusions indicate that the eight hour system is more efficient by reason of the steady amount of output, a decrease in time lost and a lessening of fatigue as reflected in the causation of accidents.

These physiologic data merit consideration not merely because of their significance in industry, but because of their application to public health policies. Assuming a full compliance with all possible hygienic provisions in industry, in so far as plant and personnel are concerned, there still remains such items as hours of labor, monotony and speed in industry that have a pronounced effect upon the health and welfare of the workers. These facts, to be sure, are well known to industrial hygienists, but their full importance has not been adequately appraised by physicians in general, or public health administrators.

A considerable part of the clash between capital and labor is based upon physiologic and psychologic grounds which are still unrecognized or unappreciated by the medical profession or public health administrators. The social and economic considerations which are interwoven in human welfare during infancy, childhood and late adolescence are equally evident, tho possibly in other forms, thruout the period of human activity. It is impossible to mention a striking social or economic problem that does not carry with it some content of public health.

Regardless of political affiliations or the urge of economic determinism, the medical profession is under obligations to consider the psychologic and physiologic character of the problems now facing or threatening the world. Production in industry is not to be divorced from human productivity; no more than the financial status of nations is thoroly independent of the economic condition of their citizens. Overwork and underpay are as distinctly medical problems as they are social or economic questions. Fatigue is as great an obstacle to industrial efficiency as it is to personal effectiveness.

Why Are There Laws?—When Governor Smith vetoed the Chiropractic Bill, it was not an evidence of judgment concerning the value of the cult. His objections were technical; and undoubtedly, advantage will be taken of his comments in framing new legislation designed to permit chiropractors to practice. In the meantime, there is no legal sanction for chiropractics in the State of New York. Nevertheless, the cult is active in establishing itself upon a secure foundation, despite the violation of law incidental to their self-advertised existence.

With unusual measures of publicity, they present their schools and practitioners to the public, and apparently are flourishing without opposition on the part of the State Board of Health, the Regents, the Municipal Health Authorities, or Medical Societies. Concerning the nature of their work little need be said at this time, but the fact that they are practicing in violation of law, raises a most serious question of responsibility.

In the vetoed legislation, provision was made for legalizing in New York State those who had been in actual practice for a period of one year. This was tantamount to rewarding individuals who had denied the laws of the State of New York for at least one year, thru practicing without warrant or license. The chiropractors are continuing, thru organized effort, under the auspices of an association, illegally and without license, to practice the principles of their cult. Why chiropractors should be above the law is a matter of public concern, particularly in view of their disbelief in such fundamental subjects as bacteriology, pathology and chemistry.

By way of contrast with New York State, is the issuance of injunctions by the Department of Registration and Education of Illinois against individual chiropractors without licenses, and against the Universal Chiropractors' Association of Davenport, Iowa, which has been aiding and abetting them in violating the laws of the state by practicing chiropractic. The example thus given, as an effort to curb illegal practice, deserves commendation and public support of all believing in law and order. It presents an example worthy of emulation by other states thus far not granting legal authority to chiropractors.

In as much as all the efforts to oppose practice by cults are advertised as evidences

of hostility and jealousy on the part of the medical profession, it would seem just and proper that restrictive action should be initiated by the state authorities responsible for the enactment of laws and their proper observance. The burden of prosecution should not be placed upon medical societies, but properly belongs to District Attorneys, Attorney Generals, the Board of Regents, the State Department of Health, and other established agents of government, sworn to secure fulfilment of the terms of our state laws.

It is irrational to establish standards of education for physicians, to authorize licensure on the basis of acceptable curricula, after examination under state direction as a prerequisite of caring for individual and public health, while countenancing the existence of a cult without educational standards, with inadequate special training, and with defiance of the law. While the medical profession is amenable to state laws designed to protect the general public, equally, adequate legislation should be demanded to protect the public from the outlaw practices of ignorant and unqualified individuals, the principal bases of whose activity depends upon human credulity, ignorance, commercial greed and an advertised campaign typical of the quack and charlatan.

It is certainly the duty of medical organizations to give information to their constituted authorities concerning these illegal practices and to demand that action be taken to correct the existent legislation and to secure the enforcement of the laws concerning the practice of medicine under whatever name employed. Chiropractice has no legal standing in New York State and every practitioner of this cult, by his sign stamps himself as a menace to public welfare, if only thru his defiance of law.

Infant Mortality and Pre-Natal Care.—

The efforts to control the morbidity and mortality of childhood are reflecting their benefits in the general decrease of infant and child mortality thruout the country. It is of peculiar interest, however, to note the distinct advances that have been made in this direction in urban areas. The vast saving of child-life is well exemplified in the work of the New York City Department of Health operating thru its Bureau of Child Hygiene.

In the monthly Bulletin of the Department of Health, June, 1920, Baker and Sobel present a résumé of the Baby Welfare Division, covering the year 1919. The infant mortality rate for 1919 in New York was 81.6—a truly meritorious accomplishment. An analysis of this mortality rate reveals the causes to operate as follows:—Mortality rate from contagious diseases 1.9; respiratory diseases 15.5; diarrheal diseases 15.9; congenital diseases 37.2; all other diseases 11.9. The outstanding fact is the high mortality rate from congenital diseases, indicating the necessity for greater efforts at their control. While the total death rate of New York has been gradually subsiding, having reached 12.39 during 1919, the mortality rate from congenital causes has practically remained stationary. It is improbable that infant mortality in New York City will be greatly reduced, unless all agencies unite in attacking the problems of pre-natal life, childbirth, and the management of the first month after birth.

Baby Welfare Stations, while originally designed for the supervision and care of babies under two years of age, have taken on the function of giving instruction and supervision to expectant mothers—in other words, pre-natal care. New York experi-

ence has indicated that for several years the number of infant deaths from congenital diseases alone "was almost equal to, or exceeded that of diarrheal diseases and respiratory diseases combined." Experience similarly has indicated that with increased supervision of expectant mothers the mortality rate from congenital diseases has decreased, the number of still-births has lessened, there are fewer premature births, and a decline occurs in the number of deaths during the first month of life. In addition, there are fewer instances of ophthalmia neonatorum, a decrease in birth injuries, a marked reduction in the maternal mortality rate, an increased percentage and duration of maternal nursing, larger proportion of births under the guidance of physicians instead of midwives, and by no means least, improved birth registration. This total of accomplishments, noted as a result of a comparatively small experiment of only a few years' duration, indicates that the greatest hope of securing large reductions in the infant mortality rate is to come thru an institution of activities in the direction of pre-natal care.

In smaller communities it becomes possible to establish pre-natal work with comparatively little difficulty, providing that a visiting nurse is available, and some system of voluntary or compulsory notification of pregnancy is established. Making manifest the advantages to be derived from supervision during pregnancy should suffice to create a degree of public opinion favorable to voluntary submission to any reasonable scheme of guidance during the pre-natal period. Mandatory notification of pregnancy is accompanied with numerous problems for which even the most advanced health department is not adequately prepared. Until adequate provision is made to meet all the responsibilities involved in com-

pulsory notification, it would be undesirable to urge its adoption. For the present, however, no step should be omitted to provide the agencies necessary to advance the interest of the expectant mother who is willing to register in order to secure the manifold benefits of educational direction and medical supervision for herself and her offspring.

The soundness of pre-natal care as part of public health policy has been determined beyond all conjecture. There only remains the important step of popularizing this form of service, and of building up a service adequate to the needs of specific communities. There is, naturally, a vast difference between the type of organization required in rural sections, small cities, small villages and densely populated urban areas. The basic principle, however, is identical. It is for this reason, that particular efforts are now being directed to this phase of public health administration, particularly in communities where the death rate from congenital causes is high, and where the injuries and accidents of childbirth are numerous, and the proportion of still-births indicates the need for special attention. No campaign against infant mortality may be said to be properly organized, if it fails to take cognizance of the imperative necessities of care during pregnancy, childbirth and the first month post partum.

Abortionists.—A New York physician was arrested, tried, convicted and sentenced to prison on the charge of manslaughter. For some reason, a group of physicians, probably friends, engaged a publicity man and began a campaign against the jury system on the ground that laymen were not capable of judging indications for surgical

procedures. It was even alleged in the public press, that owing to the conviction of this doctor, surgeons were refusing to perform needed operations, because of a fear of falling into the nets of the law.

This circumstance is of serious moment. The jury viewing the facts held the physician guilty of the death of a woman, upon whom he had performed an operation. The punishment was due to the unlawfulness of the operation which caused the death. It required no technical knowledge concerning the indications for emptying the uterus in passing upon the actual facts. Medical testimony as to the facts was presented. It is well known that when the problem of abortion arises and a therapeutic abortion is indicated, the judgment of the operator should be supported by the opinion of at least one other competent medical man. Under normal conditions this rule is reasonably observed by those who are mindful of their responsibilities before the law. It is unbelievable that any physician with self-respect and confidence in his own judgment would hesitate to perform any operation merely because some other physician was held guilty of performing an illegal operation.

The frequency with which abortions are performed is a matter of common knowledge to laymen who condone the operation when it is successful, but have little pity in their hearts when in performance of their duty as jurors they are called upon to weigh the facts in the light of existent laws. The medical profession is not unaware of the existence of abortionists, and in their official proceedings do not hesitate to condemn such activities as pernicious and contrary to public health. A medical society promptly repudiated all implied medical support of the physician who was not a member of the county society.

Those who sneer at the advocates of birth control might well pause to consider the difference between contraception and abortion. At present, the two are classed as equally meretricious, but certainly contraceptions do not possess the fatal potentials of abortions. In this connection, it is interesting to note that the birth rate has been falling gradually, and for 1918 it was 24.4 per thousand, as compared with 24.9 for 1915 in the Registration Area. This drop in the birth rate is not due to an increase in abortions, but mainly to increasing voluntary control of conceptions. Recognizing the tendency towards a decreasing birth rate, and the extent to which voluntary control of the birth rate is functioning, it is imperative that a vigorous position be maintained against illegal operations. The indications for therapeutic abortions are sufficiently well established, but it is desirable that a definite procedure be announced as a prerequisite to its performance. Under such circumstances the medical profession will be adequately safeguarded against the opprobrium which naturally follows the conviction of a physician of any crime involving moral turpitude, as evidenced by misdirecting medical and surgical skill into illegal and unwarranted channels. The abortionist should reap the consequence of his actions, and when he exploits an unborn child for his own greed, he must be willing to accept the prison sentence if he also adds, thereto, the death of the child-bearing mother.

A group of physicians rallying to the support of illegal practices casts suspicion upon themselves, and detracts from the high opinion that the medical profession has created for itself and desires to maintain as believers in law and supporters of regulations conducive to social betterment and racial progress.



Life vs. Living.—Thruout the world, the news of the past few weeks shows a distinct falling off of interest in the problem of living and a very lively revival of interest in the problem of life. In this country, in England, in France, in Austria, everywhere, there seems to be a singular preoccupation with the problem of life in all its aspects. Perhaps this is a reaction from the prolonged preoccupation with death during and immediately after the war. Whatever the origin of this new interest, it is noteworthy that in all countries simultaneously there is proceeding a very active and very close scrutiny of almost every conceivable phase of life. In France a body of scientists are inquiring into the beginnings of life. In America, a chair of sexual hygiene is founded to facilitate the improvement of life. In Austria, a noted scientist announces a discovery which will prolong life. In England and France, students are putting their heads together to make man immortal, in spirit at any rate, by bridging the mystery of death. Finally, in England and America, a formidable effort, the least praiseworthy of all, is being made to purify life by removing from it the blemish of coffee, tea, tobacco and other stimulants of an equally harmless nature when moderately indulged.

The Origin of Life.—At a recent session of the French Association for the Advancement of Science, new evidence of the marine origin of mankind was offered. The evidence was unique, extremely original, and was based on the little observed variation in the human temperature according to the time of day. This variation, it was claimed, was one of the most convincing proofs of man's marine origin. The theory was neatly presented. At four o'clock in the afternoon, the human temperature is about 99.3°. Between two and six in the morning it is generally about 97.2°, a variation of more than two degrees. This varia-

tion is in no way influenced by either climatic conditions, feeding or the amount of sleep or activity in which the individual has indulged. If, those who favored the theory said, we accept the marine origin of man, we must agree that the cell destined to become human and existing at a certain depth of the ancient waters had to adjust itself to the physical conditions of these waters. It should be borne in mind that the human life fluid is of much the same composition as the salt water of the sea, except that its saline ingredient is much smaller. It is moreover a significant fact that man's temperature is equivalent to that of the ancient seas, known to be warmer than those of the present day, and it seems very probable that this temperature has a marine origin. The variation in human temperature is even more impressive proof of this fact, for this variation is exactly similar to the variation of the sea's temperature. The ocean, influenced by the sun's rays, shows a temperature curve like that of man, reaching the minimum at four in the morning and the maximum at four in the afternoon. Man's temperature curve, as it is uninfluenced by external or internal conditions, would therefore seem to indicate an origin dating far back in marine life. Certainly this extraordinary parallel constitutes an interesting contribution to the theory of the origin of life.

Improvement of Life.—It is natural that practical America, leaving speculation to others, should concern itself rather with the more immediate problem of improving life. Toward this end a national body of the Women's Christian Temperance Union has voted an adequate sum for the foundation of a chair of sexual hygiene at Iowa University. "Humanity," says the report of this body, in making the announcement, "is not progressing in the matter of propagation. It is, in fact, retrograding. We

are entirely neglecting the most vital problem of existence. Children are permitted to grow up in virtual ignorance. They marry and there is no thought of the fundamental issues involved." Is it not singular that such sound reasoning, such a long-delayed and indispensable measure for the improvement of the race, should come from a quarter which hitherto has been associated with the most timid and conservative thought? We have more than once in these columns attempted to call attention to the amazing indifference of modern science to the problem of breeding a higher individual when such a huge advance has been made in the breeding of better animals. We found it a cause for bitter pessimism that numerous legislatures, voting thousands of dollars for the improvement of cattle breeding, would not yield a penny for experiment and study that might lead to the advancement and improvement of human beings. It is significant that the first definite and practical step in this direction should come in a state where animal eugenics, if we may use the term, has proved an enormous success. Stock breeding thruout Iowa has produced most gratifying results, and evidence of these results has led to an attempt to imitate these methods in producing a higher type of human offspring. The deduction is an inescapable one. It is hard to comprehend why we have been so slow in forming such a deduction. The members of the W. C. T. U. frankly acknowledge that their inspiration has its source directly in the stock breeding experiments. They show an admirable aloofness to the common and meaningless prejudice against emulating animal progress. The common answer to all efforts to encourage eugenics is that men are not animals and they cannot submit to the same laws. It has always been our conviction that animals might make the same comment upon men and with greater justice. There is a passage in Rostand's "Chantecler" in which the cock breaks up a fight between two barnyard denizens with the appeal: "For Heaven's sake, stop behaving like human beings!" It is a mistake founded in utter ignorance to use the terms "animal" and "beast" when applied to human beings as terms of insult. They should be employed, or certainly understood, as complimentary. Animals are the most moderate, the most exemplary,

creatures on earth. We would do well to imitate them more closely than we do. They rise, under normal and free conditions, with the rising of the sun, and they retire with the setting of the sun. They labor cheerfully and without grumbling so long as labor is required of them. They live peacefully—usually—among each other. And in the particular sense in which their name is used as a term of opprobrium they are altogether exemplary. We speak of a lascivious, immoderate individual as a beast. What ignorance that betrays! Beasts are severely monogamous, severely continent. We would do well to abandon our smug attitude of superiority and try to be a little more like them than we are. And we would do particularly well to introduce a modicum of the science in our own breeding processes which we have so painstakingly introduced in that of our beasts. AMERICAN MEDICINE extends its compliments to the members of the W. C. T. U. who were not too proud to emulate the progress of our animals.

Prolonging Life.—While France is trying to explain life and America to improve it, Austria is concerning itself with the problem of prolonging it. European scientists are at the present moment engaging in lively discussion, much of it in terms of enthusiastic approval, of a discovery announced by Dr. Steinbach, of the University of Vienna. Dr. Steinbach, after numerous sensational experiments with humans and animals, announces the discovery of a scientific method for restoring youth to the aged. The discovery is based on the rejuvenation of the germ glands. This rejuvenation, according to the theory, is made possible by a simple operation, altho a similar result can be obtained by the repeated application of the X-rays. The effect of all the operations performed on old men and old animals is said to be incredible. Their appearance is in every way rejuvenated, their mental and physical capabilities are restored and a new lease of life and vital energy is secured. Viennese colleagues of Dr. Steinbach, perhaps prematurely, hail the discovery as the most important ever made in the interests of humanity. If, as is claimed, the treatment effects a revival of energy as well as a prolongation of life, the discovery is indeed a remarkable and welcome one. The

general prejudice against experiments with the prolongation of life has its origin in the unfavorable impression we have of those among our acquaintances who have exceeded the usual span of life allotted to us. Invariably mental and physical degeneration are the marks of extreme age, with the consequence that few of us aspire to more than the portion of years in which physical and mental faculties remain active and unimpaired. No extension of life can compensate for the depressing dotage which is the invariable lot of those whose bodily age continues after their mental life has ceased. This alone can explain the abeyance into which the instinctive wish for immortality has fallen. But the promise of a rejuvenation of both mental and physical activity is an alluring one. We think at once of a Goethe, at eighty-three, submitting to a slight operation that would give him another half century of contribution to the literature and the wisdom of the world. This disappointment of death is chiefly lodged in the complaint that it comes just when, for the first time, a man begins to approach an understanding of life—an understanding which is ready to become articulate only to be snapped out by the quick, remorseless hand of death. What an enviable future awaits the youth of tomorrow, who will sit on the vigorous knee of his youthful great-great-great-grandfather, still in the bloom of life at the age of 175, and listen to the wisdom that falls from his lips!

Purifying Life.—The victory of the prohibition forces in America has inspired a campaign for the purification of the race in England and America on the part of a very powerful and altogether too meddling group of reformers who are determined to rid humanity of its most harmless vices. Before the benefits of the Eighteenth Amendment have yet been conclusively shown, they are already planning ambitious projects whereby coffee, tea, tobacco and other modest stimulants shall go the way of the strong drink. Where others are attempting to improve life or prolong it, they wish to purify it—purify it, one is tempted to add, beyond endurance. One has but to evoke a mental picture of the race they are trying to breed to realize what an appalling project is theirs: a race that will frown upon the refreshing cup of cof-

fee in the morning, will spurn the tranquilizing cigar after dinner, will reject with contempt the sociable cup of tea in the afternoon. Certainly such complete abstinence will purify the race, but a race so pure, so faultless, so completely without its innocent redeeming vices could not survive more than three generations. Of all the attempts to cope with life, to enhance it or to improve it, this is assuredly the most futile. Granted that coffee is a poison, that tea is a poison, that tobacco is a drug, few have succumbed to these poisons, and the mere handful that have injured themselves by lack of moderation should not be used as a pretext for enforcing total abstinence on the huge masses to whom these "poisons" are a comfort and even a stimulus. The virtues of life are meaningless without their compensating vices, and coffee, tea and tobacco are vices so innocent, so generally harmless, that they ought to be encouraged if for no other reason than that they divert the average human from more harmful ones. These well-beloved vices are the salt of life—without them life would be lacking in relish. Only when they are immoderately indulged in are they at all a menace to either life or health. The best authorities acknowledge that a reasonable amount of coffee or tea not only can do no harm, but is often of decided benefit, while an occasional cigar is a comfort and an inspiration. Why abolish them? On the ground that they are subtle poisons? That is merely pandering to a phrase. Life is a constant battle with poisons and hostile elements. The air we breathe is laden with poisons and harmful germs. The food we eat is constantly exposed to poisons and germs. These hostile elements are incapable, but we make little of them except when they become too menacing. Coffee, tea and tobacco have not become a menace in the lives of most of us. Indeed, there is more evidence at hand of the good than of the harm they do, except in very rare instances. An interesting experiment, revealing the excellent benefits of moderate smoking as far as productiveness is concerned, was made recently at the huge factories of Messrs. Dick Kerrs at Preston, England. Up to four months ago no smoking had been permitted during working hours. In an effort to increase productiveness one of the managers hit upon the idea

that an occasional smoke might contribute something. A fifteen-minute period in the morning and one of the same length in the evening were allowed, when employees might smoke. An immediate improvement was noticeable. It was not fortuitous, one may judge, for the managers after three months of observation decided to extend these periods to an hour and a half morning and afternoon. The new privilege, three hours of smoking during the working day, has brought about even greater production. It is interesting to note that the managers have not leaped to the conclusion, which would be false, that all-day smoking would be proportionately beneficial. Such indulgence would mark excess. They have chosen the longest period consistent with moderation. What is true of tobacco, as in this instance, is equally true of tea and coffee. By referring to them as "drugs" one does not condemn them. Drugs have their place on the prescription list of reputable physicians and they have a very useful place in the stimulation of human activity. If a battle is to be waged against them, it should be concentrated against immoderacy, not against their temperate employment.

After Life—What?—It is too early to make any comment on the recent formation in Europe of an International Institute of Metaphysics, the object of which is to penetrate beyond the veil of death. At the head of the movement in favor of such an institution is Dr. Gustave Gorey, of Paris, the famous spiritualist. In a recent issue we discussed some of the aspects of spiritualism and pointed out the pitfalls into which even great minds and honest investigators have fallen. A list of the names backing the newest institution is imposing: the philosopher Henri Bergson; the co-discoverer of radium, Mme. Curie; the scientist Charles Richet. But great names have ceased to be impressive in association with spiritualism and after-death phenomena, so many having succumbed to trickery and spurious manifestations. If these newest investigators of spiritualism wish to gain the unreserved confidence of those who retain unprejudiced and open minds on the subject, their first efforts should be confined to the rejection of all aspects of the subject that are not strictly scientific and strictly trustworthy. They should proceed by rejecting

and condemning unqualifiedly the commercial uses to which human credulity has been subjected by impostors and adventurers of varying degrees of cunning. Only by so doing, and by confining their studies to phenomena reported on unquestionable testimony and coming to them at first hand, will they bolster the often-tried and often-disappointed faith of many a willing but unwon convert.

A Medical Martyr.—Our hearts are sad as word comes of the sudden death of Dr. C. F. J. Laase from heart failure. Only last month we had the pleasure of congratulating Dr. Laase on the outcome of his recent trial for alleged violation of the Harrison Narcotic Law.

For a long time Dr. Laase had been a student of narcotic drug addiction. The exigencies of practice brought several cases to his attention that especially interested him, and he early realized that narcotic drug addiction was something more than a morbid habit, or an abnormal craving for certain drugs. The more he observed the phenomena presented by the patients under his care, the more convinced he became of the soundness of Dr. E. S. Bishop's contention that the so-called craving for the drug of addiction has its origin in a true pathologic condition; in other words, that the "prolonged use of narcotic drugs produces a disease condition as definite and typical in its character and manifestations as any other morbid state." Dr. Laase, in addition to his clinical investigations, gave much attention to the literature of the subject, and the many translations he made of articles by European students of the problem have proven exceedingly helpful. Only a few months ago AMERICAN MEDICINE was privileged to print his excellent translation of Valenti's valuable contribution to the study of drug addiction.

Earnest, thoughtful and imbued with the courage of his convictions, it was to be expected that Dr. Laase would not hesitate to criticize and condemn whatever he saw in the narcotic laws, or their regulations, that seemed unwise and unjust. He never thought of himself, or of the antagonisms he might arouse. He expressed his honest opinions openly and fearlessly, and "let the chips fall where they would." His attitude

toward health insurance was equally outspoken. To him, the various schemes tending toward state medicine presented the greatest danger to the medical profession. He would have been false to every principle he held dear if he had not come out "into the open" and done his part to awaken the profession to what he considered wrong, and a great menace to the welfare of American medical men.

How far Dr. Laase's open criticism of certain phases of the narcotic laws, and his active opposition to the proposed plans to establish health insurance in New York State, were responsible for the accusations which led to his indictment for alleged violation of the narcotic drug laws, we are not prepared to state. Dr. Laase himself, and many of his immediate associates, feel certain that he was the victim of malice and persecution. He had abundant evidence that left no doubt, in his mind, at least, that certain medical men had gone to unbelievable extremes to injure and ruin him. Had he lived and gained his strength we understand it was Dr. Laase's intention to submit the evidence he had accumulated to the County Medical Society and demand an investigation of the acts of the physicians whom he claimed had persecuted him and been guilty of the grossest of unprofessional conduct. Dr. Laase was quoted as wanting the American people to know the lengths some of his professional brethren had gone to, to ruin him, solely because he had actively and openly opposed their views and plans.

Unquestionably, therefore, the one thing that was most responsible for his mental and physical depression and weakness was his constant brooding on the grievous wrong he had suffered at the hands of members of his own profession. It was inconceivable to him that physicians looked on as leaders in the profession, men of standing and reputation, could not only want to see him ruined, crushed and made an outcast, but would privately and secretly resort to every possible means to bring this about—and solely because he had dared to oppose their plans and purposes.

Dr. Laase, as those who knew him best, well know, could not hate anyone or wish to see anyone suffer. The knowledge that there were men—physicians—who had hated him so much that they had used every

means in their power to ruin him, was a terrible blow. And when, after his trial was over and he came thru that ordeal with every right to expect the hearty commendation and good will of every honorable physician, he found that the same forces were no less anxious to destroy him, "by hook or by crook," the situation was not one calculated to give him the cheer and encouragement he so naturally needed to help him regain his mental and physical balance.

It is no exaggeration to state, therefore, that Dr. Laase was a true medical martyr. He dared to stand by his honest convictions and fight for what he thought was right. It is not for us to say how far his enemies went to make him pay for his temerity and courage. We do not know the means they took or the methods employed. But Dr. Laase knew, and possibly there are some of his immediate associates who do. We earnestly believe it was the mental and spiritual hurt caused by his knowledge of what he had suffered from sources he had never thought of as seeking to injure him that was largely responsible for his death.

"Man's inhumanity to man" is a sad arraignment of human nature, but if the anguish and trouble Dr. Laase was needlessly caused to go thru was the result of professional animus, what an indictment could be drawn of the workings of medical enmity!

Art and Morality.—More than half a century after France decided that Theophile Gautier's extraordinary novel, "Mlle. de Maupin," was not an immoral book, an American judge has come to the same conclusion. The bookseller was acquitted of the charge of selling a wicked book, and the Anti-vice Society, which had brought the charge against him had to pay \$2,500 for its meddlesomeness. A deep sigh of relief must have been breathed by cultured Americans who have the artistic welfare of their country at heart. It would appear from this decision that we are catching up with Europe at last, that we are only fifty years behind them now. It would also appear that hereafter some impediments will be put in the way of self-righteous individuals without the background of a real knowledge of art that would make them competent critics, so that they will hesitate a little

before placing the stamp of their meaningless but troublesome disapproval on masterpieces which have been acknowledged and welcomed as contributions to the world's treasure by judges more competent than themselves. One turns with pleasure to recent decisions of a similar nature, notably the decision against the policeman who considered the "Story of a Lover" an immoral book and confiscated all the publishers' copies. The publishers, without defending the merits of the novel, which is without any special distinction, but is sincerely written and honestly conceived, refused to recognize the authority of a policeman as a judge of what constitutes morality. They won their case. From these recent cases one begins to feel that America has an artistic future and that we may soon catch up with Europe, which has always led us.

During his tragic trial, Oscar Wilde was asked by the prosecuting attorney whether he thought a certain magazine article was immoral. "Worse than that," replied Wilde promptly. "It is badly written." To fanatics, this report must appear very shocking, yet, tho somewhat exaggerated, it is the necessary view of the artist whose chief concern is life and not morals. There is little enough justification for suppressing a bad book. There is no justification whatever for suppressing a book which seems to deal freely with contemporary morality. Of course, there are many bad books written, there are many bad pictures painted, but it takes many failures to make a great success, and these failures are necessary steps in the progress to perfection. The road to Parnassus is littered with mediocrities, but they give the necessary foothold for the climb. One of the reasons we have not yet achieved a supreme form of artistic expression in this country is that we have given too much thought to morals and too little thought to untrammelled art. As one critic put it, we will never have a real literature in this country so long as we regard as forbidden that half of life which offers the richest material to the creative artist. That is one of the reasons our best writers are obliged to confine themselves to stories of brave heroes rescuing beautiful heroines from nasty villains, instead of getting down to the grim elementals of life. Europeans find our literature naive, the ex-

pression of adolescents who have not matured. It must necessarily be so if we are limited to merely scratching the surface of life. When we learn that art is above morals, not a handmaiden to it, we will develop out of our magazine cover era of of literature and evolve an artistic expression that will hold its own against the achievements of our European contemporaries. Meanwhile, if our policemen and vice-haters must suppress anything, there is enough bad work that goes by the name of "art" which America can well dispense with—bold pictures and pornographic leaflets that make a frank and inexcusably vulgar appeal to the senses. As for the serious efforts of serious artists, they had better leave judgment to history, which has shown that no really bad work of art can survive.

Scientific Sanction for the Use of Pie.—

For a long time our scientists have been taking more and more of the joy out of life by condemning various articles of diet which the human palate had become addicted to from long years of use. "Pies 'n things" have been especially condemned because of the supposed excessive burden placed on the digestive organs. Great has been the lamentation thru New England, the home of pies and cakes in all their luscious and delectable forms and varieties. But now sorrow is changed to rejoicing, for recently a number of gastroenterologists, writing in the *American Journal of Physiology* (June, 1920), have come to the defense of pies, puddings and cakes and shown that these are by no means the dietetic menace certain scientific kill-joys have claimed. To quote from an editorial in the *Journal of the American Medical Association* (Aug. 21, 1920): "Direct comparisons of a variety of pies, cakes and puddings representative of American culinary art, on the same persons, indicated that pies 'were handled more readily than cakes, and puddings somewhat more readily than either.' For those who can think best in terms of statistics, it may be stated that the average gastric evacuation time of puddings was two hours and eighteen minutes, against two hours and twenty-seven minutes for pies; whereas cakes followed in the wake with an average record of three

hours and two minutes. Averaging the highest total acidities, values were obtained for puddings of 92, for pies of 90, and for cakes of 90. Some of these values are not widely divergent from the classic data obtained on Alexis St. Martin, whose stomach permitted Beaumont to make his pioneer investigations in gastric digestion. There is no occasion to report here the insignificant distinctions between custard pie and lemon meringue, for example, in their gastric behavior; but it must be admitted that mince pie, so often regarded as an arch offender of the digestive tract, requires a rather long time (from two and three-quarters to three and one-quarter hours) to leave the stomach. The addition of ice cream to a piece of pie—a unique American combination—does not increase the burden of the stomach to any extent, and the conventional apple pie and cheese likewise give a conservatively good report." Thank heaven, life is still worth living!

Our Cover Picture.—The picture on our front cover this month is of the principal ward in the American Red Cross Hospital at Vilna, Poland. This hospital was originally a military training school. Under the direction of Dr. F. W. Black it has become an institution that the Polish people have marveled at for its achievements. Dr. Black has had to do all of the surgical work of the hospital and has averaged six major operations daily, in addition to attending to a vast amount of minor surgery and routine work.

We have a splendid article by Dr. Black, describing the hospital he is conducting in Poland and the conditions he has had to meet and overcome, which we shall print in our September issue.

Health Insurance.—There is no question of greater importance to the medical profession than that of health insurance. Will the institution of any of the proposed plans bring the enormous benefits to the people that their advocates so confidently expect? Or will the passage of health insurance laws debase the profession, rob medical men of all incentive, lower medical effi-

ciency and thus only defeat the ends they were intended to accomplish? There are many earnest, sincere people arrayed on both sides of the controversy, and a final solution of the problem can only be reached by an honest, thoughtful consideration of every phase of the question. Acrimonious discussion, with personal abuse predominating, will never help to decide the matter. There is only one way, "come, let us reason together." Our pages are open to the advocates of both sides of this question that is so important to every practicing physician. Our only restriction is, no personalities and no abuse.

In our October issue we shall have a number of comprehensive papers, both by those who advocate health insurance and by those who oppose it. Brief contributions from any of our readers discussing any phase of the question will be welcome.

Announcement.—Our new Pharmaceutical Directory, which we plan to conduct for our readers, will be inaugurated in our next number.

Syphilis of the Endocrine Glands.—Schulmann (*Paris Medical*, May 29, 1920) states in his discussion of the subject that some derangement of some endocrine gland is responsible for all forms and cases of malformation and abnormal growth. Whenever there is a possibility that syphilis is responsible for the endocrine derangement—and this is far more common than generally realized—prompt treatment may ward off further damage, attacking the spirochetes with swift and vigorous blows and combating the dystrophy with potassium iodide and organotherapy. The intensity of the treatment must be gaged for the patient and the glands involved; special caution is necessary with suprarenal insufficiency as any arsenic preparation by the vein might bring on acute disturbance from the superposed poison.

The Effects of Hypopituitarism.—In his valuable article on the signs of hypopituitarism, Stewart (*Southern Med. Jour.*, Aug., 1920) summarizes his conclusions

with the statement that undergrowth, dwarfism, dysgenitalism, feminine hirsuties, feminine type skeleton, lack of secondary sexual characteristics, genital atrophy and impotence, headaches, languor, weakness, may appear in varying degrees in different cases at different periods. The classic signs and symptoms of hypopituitarism are subnormal temperature, dry skin, adiposity, low blood pressure, slow pulse, constipation, amenorrhea, drowsiness, inactivity. Lack of attention, impairment of memory, actual dullness, mild psychoses to actual convulsive seizures with epileptic attacks may occur. The cause may be glandular deficiency of one or both lobes, a pituitary tumor with damage of the gland, a neighborhood tumor or hydrocephalus with pituitary pressure. The symptoms of intracranial tumor may be more prominent than those of pituitary deficiency. Infantilism, dysgenitalism, obesity, symptoms of intracranial tumor, warrant pituitary study.

Marriage and the Activity of the Thyroid Gland.—According to Strell (*The Practitioner*, Aug., 1920) it has been definitely proved that marriage more than doubles the output of thyroidine from the thyroid gland, while during actual pregnancy the amount is four times in excess of the normal. It is also a fact that typical myxedema previous to the menopause is distinctly rare; moreover, in these few cases it is noticed that there is a considerable amelioration in the patient's signs and symptoms during pregnancy. This fact rather advocates the systematic use of thyroid extract over prostatic extract, for the former is a variable factor, increasing concurrently with the amelioration of the myxedematous symptoms, while the latter, *i. e.*, the amount of prostatic secretion remains moderately constant.

The Man Who Quits.

He starts with a rush in a joyous hour,
As good as the next; but he lacks the power
That would make him stick with a courage
stout
To whatever he tackles and fight it out;
He starts with a rush and a solemn vow
That he'll soon be showing the others how;

Then something new strikes his roving eye,
And his task is left, for the by-and-by.
It's up to each man what becomes of him;
He must find in himself the grit and vim
That bring success; he can get the skill
If he brings to the task a steadfast will.
No man is beaten till he gives in;
Hard luck can't stand for a cheerful grin:
The man who fails needs a better excuse
Than the quitter's whining "What's the
use?"

For the man who quits lets his chances slip
Just because he's too lazy to keep his grip.
The man who sticks goes ahead with a
shout.

While the man who quits joins the "down
and out."

—London Tit-Bits.

Yeast Reveries of a Bachelor.

BY

DR. LEONARD KEENE HIRSHBERG,
A. B., M. A., M. D.

He dreamed that he loved in the *Land of*
Yeast Cake,

On the isle in a lake of *Wheat Grain*,
Where thrived the fresh yeast in the *Palace*
of *Bread*,

In golden *showers of rain*.

He lay back on his couch of yeast cake
alone,

With a fresh loaf of bread at his head;
While the toasties and cookies of com-
pressed yeast cakes,

Developed pale blood into red.

Then far-wafted breezes of freshly baked
bread,

Refreshing, enticing, and kind,
Stirred the yeast cakes like incense of
sweet muscatel,

The cakes which he ate as he dined.

His senses were soothed by the fine tasteful
yeast.

Better than potions or drugs,
It trickled right over his palate select,
Sweeter than kisses or hugs.

Thus healed of his malady sharp and severe,
From the ulcers and boils in a heap,
He reverently nibbled a yeast cake or two,
Then happily fell off to sleep.



THE PHARMACOLOGY OF DRUGS USED IN DISEASE OF THE UPPER GASTROINTESTINAL TRACT.¹

BY

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New York City.

In responding to a call to speak on the drug treatment of upper gastrointestinal affections, we had the alternative of outlining a drug management for each of the sundry diseases, or of considering individually the drugs commonly employed. We have chosen the latter, as it is in line with a partial study which we brought out in June, 1919, of the action and value of certain drugs used for stomach effects. As a preliminary to the study of additional drugs we should like briefly to present some of the conclusions reached in that paper, as follows:

Atropine and Belladonna.—A summary of the results obtained by Ginsburg and Tumpowsky, Crohn, Rehfuess and others is as follows:

I. *Action on Acidity and Secretion.*—

1. In man, in cases of hyperacidity or hy-

persecretion with cessation of secretion at the end of the digestive period, atropine or belladonna even in maximum doses, either by mouth or hypodermic, does not cause diminished secretion or acidity.

2. In cases with continuous secretion atropine in maximum dose ($\frac{1}{50}$ grain) by hypodermic given either before or during the meal does not lessen the acidity or secretion of the digestive period and may even increase it; but it may result in a stoppage of the continued secretion in a reasonable time after the food has left the stomach.

3. In cases with continuous secretion repeated maximum doses of the tincture of belladonna by mouth such that in three days poisoning ensued, caused a cessation of the secretion after the food had left the stomach, but also caused a pronounced *increase* in acidity during the digestive period.

4. Atropine in maximum doses lessens somewhat the psychic secretion. This is an effect not sought in therapeutics.

There is then a complete failure of atropine or belladonna to affect hyperacidity or hypersecretion favorably, except in continuous secretion cases in the period when there is no food in the stomach. Moreover, the drug does not depress and may even increase acidity and secretion during the digestive period, and it checks the continuous secretion only when given by hypodermic in maximum doses or when pre-

¹Read at the annual meeting of the Medical Association of the State of New York, March 25, 1920.

viously given by mouth to the stage of poisoning.

II. *Action on the Motor Functions.*—

1. Atropine or belladonna can exert three kinds of motor effects on the stomach: (a) the abolition of abnormal spasmodic contractions, as in pylorospasm, an effect obtainable in some of the cases only, and then only from maximum doses; (b) the abolition of tone in the whole stomach wall including the cardiac and pyloric sphincters, an effect not desired in therapeutics; (c) the abolition of hunger contractions. To obtain this last in dogs Ginsburg and Tumpowsky used $\frac{1}{100}$ to $\frac{1}{40}$ grain of atropine sulphate hypodermically, doses which in proportionate amounts are too large to be given to man. We do not know of any study of the effect of atropine on hunger contractions in man, yet this work suggests that possibly a similar action is obtainable from maximum doses.

Conclusions.—1. In ordinary hyperacidity or hypersecretion cases atropine or belladonna in any dosage has no useful effects on secretion.

2. In continuous hypersecretion cases it may check the continued secretion after the digestive period, but it does this in maximum dosage only.

3. In pylorospasm it may be useful, but in maximum dosage only.

4. It may check hunger contractions in dogs if used in maximum doses, but this is an effect not yet demonstrated in man.

5. Its repeated administration in such maximum doses is not ordinarily permissible for any length of time.

6. In the doses usually employed or permissible for any length of time atropine and belladonna are wholly without effect on the secretory or the motor functions of the stomach.

Hydrochloric Acid.—1. In cases of achylia gastrica, whether or not accompanying pernicious anemia, a deficiency of acid may be partially overcome by hydrochloric acid medication.

2. For digestive purposes hydrochloric acid should always be accompanied by pepsin.

3. In the achylia with diarrhea acid alone sometimes produces a noticeable lessening of the bowel movements.

4. When acid produces sourness and stomach irritation its use should not be continued.

5. To avoid acidosis alkalies should be given during the same period, tho not at the same time as the acid, the amount required being judged by the effect on the urine reaction.

Nitrohydrochloric Acid.—This is a liquid containing free chlorin, nitrosyl chlorides and a small amount of free hydrochloric acid (Arny). It hardly seems worthy of a place in the materia medica.

Bitters.—1. A bitter is useful as an appetizer for those with subnormal nutrition, as in convalescence from acute illness, provided that it is taken not more than ten minutes or so before the time for eating.

2. As an appetizer it acts in achylia gastrica as well as in cases with gastric secretion.

3. It should be administered in just sufficient dose to give a strong, bitter taste, as the larger amounts have a depressant action in the stomach.

4. In subacidity it promotes the secretion of gastric juice.

5. If the patient is in a state of normal nutrition, but psychically disturbed about eating, it will be useless.

6. If the appetite is already normal the

bitter may not only fail to increase appetite, but may even lessen it.

7. If the stomach and bowels are deranged a bitter may nauseate.

8. The effect on appetite is solely the local one on the taste buds, therefore it cannot be obtained if bitters are given in capsules, coated pills or mixtures which conceal the bitter taste.

Bismuth.—1. The bismuth salts are to be considered primarily not as antacids, but rather as protectives. They coat the mucous membrane with a flocculent bland material, which spreads in a phenomenal manner over a large surface.

2. They are valuable in the pains of hyperacidity or ulcer.

3. Ordinarily they are not toxic, but even such small amounts as five grains of the subnitrate four times a day have produced the characteristics of poisoning by the heavy metals, *viz.*: stomatitis, salivation, a violet, blue-gray or blackish line on the gums, nausea, vomiting, diarrhea and prostration.

4. Bismuth subnitrate, but no other bismuth salt, may liberate nitrous acid and result in nitrate poisoning.

In our former paper we have given the data on which these conclusions are based. We shall now proceed to deal with other drugs in their relation to the stomach.

Strychnine.—In the spinal cord, where the strychnine effect in the body is most pronounced, strychnine has no power to originate impulses, *i. e.*, does not of itself produce motor effects, but merely facilitates the passages of impulses thru the reflex arc so that the reflex response to some outside stimulus is increased. This is shown noticeably by increase in muscular tone.

It would seem that strychnine has a similar action in the stomach wall, for Langley and Magnus found that the direct applica-

tion of weak solutions of it to the ganglia of Auerbach's plexus in the stomach resulted in stimulation, and Ginsburg and Tumpowsky, from hypodermic doses of $\frac{1}{90}$ to $\frac{1}{60}$ grain in dogs, obtained not only an increase in the tone of the abdominal muscles and an increase in the general excitability of the animals, but also a heightened tone of the stomach wall itself and strengthened hunger contractions. The latter two effects occur equally as well in normal animals and in animals with stomachs severed from all connections with the central nervous system, and are, therefore, probably due to an action of the drug on some portion of Auerbach's plexus in the stomach wall itself. These doses if increased in proper ratio would be poisonous to man, but they suggest that the action is tonic to the stomach as well as to the skeletal muscles.

Carlson showed that in dogs doses of the elixir of iron, quinine and strychnine in amounts sufficient to affect the hunger mechanism usually caused mild symptoms of strychnine poisoning yet rendered the stomach more atonic than before. Yet we cannot accept these results as contrary to those of Ginsburg and Tumpowsky, for the latter were dealing with strychnine sulphate alone administered hypodermically, whereas Carlson used a mixture of the phosphate of iron, quinine and strychnine with sugar, alcohol and aromatic oils, the whole being passed to the stomach thru a tube.

Strychnine may, therefore, be considered antagonistic to morphine or epinephrine (adrenaline), and a true tonic so far as the motor activity of the stomach wall is concerned. Cannon found that if the resting stomach has good tone the introduction of fluid (or food) at once starts peristalsis, but if the organ is flaccid and relaxed the

introduction of fluid fails to produce peristalsis. Therefore, in the treatment of gastric atony it would seem that the use of strychnine is physiologically sanctioned.

Whether or not strychnine favors the production of pyloric spasm has not been determined, but from the studies of Meltzer on contrary or reciprocal innervation there seems great probability that in ordinary therapeutic amounts it does not promote pyloric spasm. A further effect of strychnine is the promotion of reflex secretion and an increase of sensory excitability.

Summary.—In full therapeutic doses strychnine tends to increase the tone of the stomach, the height of the hunger contractions and the peristaltic response to food. It also tends to promote secretion and to increase the sensitiveness of the stomach. It would seem contraindicated in cases with hunger pains or so-called hyperacidity without atony.

Alkalies.—At the outset let us ask what is the usual stomach condition for which we employ alkalies. The answer is discomfort or pain: the pain of distention, the pain of contraction, pain when the stomach is full, pain when it is empty, pain coming early after eating and pain coming late.

Hunger Pains.—For a moment let us devote our attention to that most noticeable pain which in many of the cases of ulcer and so-called hyperacidity comes on three or four hours after eating and is relieved so successfully by alkalies. It is known as "hunger pain" or "empty pain," and as its causes are assigned: the irritation from food, hyperacidity, pyloric spasm, hyperperistalsis, hunger contractions and hyperesthesia. To understand our drug action we should know what we are combating, therefore let us examine these alleged causes.

1. *The Irritation of Food.*—In the cases without pyloric obstruction the pain does not come on while the stomach is filled with food, but only when it is empty, and then is relieved on taking food. In the cases with pyloric obstruction it may come on at the usual time tho the stomach is filled with food. For example, one patient with duodenal ulcer and partial pyloric stenosis was accustomed to relieve his pain about five o'clock every afternoon by a glass of sodawater or malted milk or sometimes sodium bicarbonate. One day after he had obtained complete relief by a chocolate ice cream sodawater at five o'clock, we passed a stomach tube at six o'clock and obtained not only the sodawater, but a large amount of the food eaten for luncheon. These facts indicate that the irritation from food is not the cause of hunger pain.

2. *Hyperacidity.*—According to Carlson "the presence in the stomach of gastric juice of full acid strength (about 0.5 per cent.) leads of itself and immediately to no untoward symptoms"; and Hurst (Hertz) and others have demonstrated that ulcers are not sensitive to hydrochloric acid of this strength. Moreover, it has frequently been found that when the hunger pains come on the acidity is not so high as during the digestive period when there are no pains. In a duodenal ulcer case with hunger pains coming on regularly about three hours after eating and in the night, Homans found the acidity at two hours after a test breakfast, 70 free and 80 total, while in the fasting stomach it was a little less, 60 free, 78 total.

Hardt, after the experimental production of gastric and duodenal ulcers in dogs, found no increase of acidity, and in man ascertained that the epigastric pains came on while the acid remained practically unchanged. In one case the acid titer

before the pain was 30 free, 50 total, and during the pain period was 35 free, 60 total. Then he gave relief by alkalies, and one and one-half hours later when there was still no pain, found the acidity 65 free, 75 total, the free acidity being thus almost doubled in the painless period. He was led to state that "in ulcer there may be no pains tho the contents are highly acid."

Moreover, hunger pains occur even with complete gastric achylia without ulcer, a group of cases called by Einhorn pseudo-hyperchlorhydric achylia gastrica because they had the late pains similar to those attributed to hyperacidity, tho there was no acidity at all. We have had many achylia cases with hunger pains coming on at the usual three or four hours after meals, and recently have had an achylia case with rapid emptying time in which typical hunger pains came on about one and one-quarter hours after eating, the time when the stomach had emptied itself of food. The pains were relieved by sodium bicarbonate. In ulcer cases being treated with small feedings if the feedings are not frequent enough we may have the same early recurrence of pain whether there is free acid present or not.

Indeed acidity, pains and ulcer do not have so close a relation as generally believed. The Mayos found ulcer in eleven cases with achlorhydria, and Smithies in 140 cases of operatively proven ulcer without retention found 51 with a total acidity below 50, and 12 with free acid below 20. Others report similar findings. (Since the foregoing was written, Smithies has reported that in 2,168 definitely proven cases of peptic ulcer, 56 showed no free hydrochloric acid.)

And further it is not an uncommon experience to find that hunger pains are re-

lieved by dilute acids, lemonade, orange juice, whiskey, beer and other acid or irritating liquids. We have just seen a patient with hunger pains recurring in attacks of several weeks at a time during the past six years, who has habitually relieved them both day and night by lime drops. As Alvarez remarks, "Many people with subacidity are relieved by alkalies, while some with hyperacidity are made worse by alkalies and relieved by hydrochloric acid or lemon juice." It must be noted that acid liquids of swallowable strength have an acid titer below that of gastric juice and may actually serve as diluents in the stomach.

It would seem, then, that if acids relieve the pains, and if the same type of pains come on in the absence of acidity or with subnormal or normal acidity, we cannot attribute the pains to hyperacidity, nor their relief by alkali to acid neutralization. According to many authorities (see Crohn's work reported below) alkalies given in the digestive period tend to induce abnormal secretion of acid, but we have no data even suggesting that this is the result of alkali given after the digestive period.

Furthermore, in the light of the findings of Rehfuess, who can say what constitutes hypo-, normal, or hyperacidity? In 864 persons, mostly students, without any digestive symptoms whatever, Rehfuess found 383, or over 45 per cent., with a total acidity reaching 100 or over at some time during the digestive period.

3. *Pyloric Spasm*.—In certain ulcer and other cases this seems to be a definite cause of hunger pain. Nevertheless, pyloric spasm as shown by radiography is frequently present in gastric and duodenal ulcer cases without any pain whatever. Glassner and Kreuzbach believed that the hunger pains were due to pyloric spasm

induced by the passage of highly acid chyme into the duodenum, and Carlson surmises that this must be true when no gastric contraction is found to coincide with pain. But Cannon and Hedblom tested this in normal dogs by comparing the time of exit from the stomach of potato alone and of potato mixed with 0.25 per cent. and 0.5 per cent. of hydrochloric acid. In the acid mixtures there was no retardation of the emptying time. With one per cent. hydrochloric acid there was distinct pyloric closure, but this strength is unknown in the human stomach. However, Katschkowski induced a lasting spasm of the pylorus by 0.7 and 0.8 per cent. hydrochloric acid, and it is not improbable that a milder acid may cause pyloric spasm in some inflammatory cases. Spencer, Meyer, Rehfuess and Hawk found that high acidity caused a greater regurgitation of bile than normal, an effect that could not be obtained if the pylorus were spasmodically closed. Alvarez has shown that in pyloric or duodenal ulcer a wave may start backwards from the pyloric region and neutralize the normal peristaltic waves before they reach the pylorus and thus prevent the normal pyloric opening. In any case these facts or surmises relate only to the digestive period, and not to the period of hunger pains.

We have seen cases with severe hunger pains occurring three or four hours after eating and in the night, in whom at the time of the pain the epigastrium was ballooned out and the pylorus on auscultation showed no gurgle. As a rule in these we have found retention. In one case in which the hunger pain had been relieved by a glass of milk, the patient was awakened at three hours by pain which was relieved by sodium bicarbonate. He was again awakened at six hours and again relieved by soda. He

then had two hours comfortable sleep and awoke without pain, but still a small amount of sour milk was found in the stomach. We argued that the sequence of events was: hyperacidity, pyloric spasm, stagnation, milk souring which caused further hyperacidity and gas production and that this with the pyloric spasm resulted in distention. The pain was essentially to the left of the midline and not in the pyloric region. At another time in the same patient intense pains came on suddenly about four hours after eating and were relieved by soda, but the stomach contained food. Apparently several factors were necessary to produce "hunger pains" in this case.

4. *Hyperperistalsis*.—This also is present only during the digestive period, a period during which hunger pains do not ordinarily occur and during which the peristaltic waves as shown by radiography are frequently very pronounced without any pain at all. Furthermore, a most noticeable phenomenon is the prompt relief of hunger pain on taking food, tho this regularly sets up peristalsis. Homans has shown that "pain in patients with proved gastric and duodenal ulcers is not necessarily associated with any recognizable action of the gastric walls" and that "intense gastric activity can occur in these ulcer patients without giving rise to pain." It is not then hyperperistalsis that we must combat.

5. *Hunger Contractions*.—These contractions, now well recognized as normal in the empty stomach, follow immediately the cessation of the digestive peristaltic waves. They occur at the usual time of hunger pains, that is, about the end of the digestive period, and have been assumed to be the cause of the hunger pains. Indeed Carlson stated that hunger pains always accompanied contractions of the hunger contrac-

tion type even tho there might be food in the stomach. Ginsburg, Tumpowsky and Hamburger thought the pains the result of the increased intragastric pressure brought on by the hunger contractions.

Hunger contractions are immediately stopped if almost any liquid or food is put into the stomach, or any strongly tasting material is placed in the mouth, or inert substances are chewed. Carlson obtained complete inhibition from wine, beer and brandy diluted with an equal amount of water, 10 per cent. alcohol, milk, 0.5 per cent. hydrochloric acid, 1 per cent. sodium bicarbonate, and even water, tho the latter and weak solutions of sodium carbonate or acids inhibited ordinarily for only three to five minutes and not at all when contractions were strong. Inhibition for a short time also resulted from placing in the mouth sugar, quinine, sodium chloride and weak solutions of acetic or hydrochloric acid, and from the chewing of gum, tasteless paraffin wax, straw or palatable food. In the dog inhibition was produced by joy, fear, anger, eagerness for food, concentrated attention, etc. Ginsburg, Tumpowsky and Hamburger found that a one per cent. solution of sodium bicarbonate had the same value as 0.5 per cent. hydrochloric acid in inhibiting tonus and hunger contractions.

In 93 observations on human cases, afterwards proven to have gastric or duodenal ulcer, Wilensky found the hunger contractions after the food had left the stomach excessive in a few cases only, and these nearly all duodenal ulcers with pyloric stenosis. Indeed in more than three-fifths of the ulcer cases studied at Mt. Sinai Hospital, New York, Crohn and Wilensky found that both tone and hunger contractions in the empty stomach were weaker than normal, while the contractions in func-

tional cases with anacidity, subacidity or hyperacidity showed no departure from the normal. They observed that as a rule patients whose tracings showed good and frequent hunger contractions proved at exploratory to be devoid of an organic lesion.

Homans reported three cases. The first was a penetrating ulcer in the mid-stomach, adherent to the pancreas; in the fasting period there was a continuous slight pain with normal tonus, but no hunger contractions, while after eating there was severe pain accompanied by low tonus and no hunger contractions. In another case with penetrating gastric ulcer adherent to the pancreas, in the period for about three hours after the meal there were good digestion peristalsis and fairly high tonus but no pain, and the patient went to sleep; then suddenly the patient was awakened by a dull, grinding pain which caused her to writhe and the tracing showed no contractions at all. In a third case, a duodenal ulcer without adhesions, with pain coming on regularly three hours after eating and relieved by food or sodium bicarbonate, a tracing eight hours after food when continuous pain was present, showed a low gastric tonus and no hunger contractions. When the patient turned on the left side the pain ceased and the hunger contractions began. When he turned on the right side the pain recurred and the hunger contractions ceased. This with others of a like kind and the finding by Crohn and Wilensky that patients with good and frequent hunger contractions were the ones that regularly did not have an organic lesion, would seem to indicate that hunger contractions are not necessarily the cause of the hunger pains in ulcer. The consideration of hunger contractions is closely linked with that of hyperesthesia.

6. *Hyperesthesia*.—Ginsburg, Tumpowsky and Hamburger believe that the gnawing pains in gastric and duodenal ulcer are caused by hunger contractions of the empty or partially empty stomach, the contractions on the whole being not stronger than normal, and they think that for normal hunger contractions to cause pain there must be a hyper-irritable condition of the stomach.

In four dogs in which Dundon had produced ulcers in the pyloric or duodenal regions, the hunger contractions were greater than normal, but not enough greater to account for the excessively painful character of these contractions in ulcer patients. He concluded that hunger pains in ulcer cases are not due to hunger contractions *per se*, but to hyperexcitability of the sensory nerves in the stomach wall.

Carlson attributes the ulcer pains either to the tension of excessive contractions or to that of normal contractions on hyperexcitable pain nerves, and avers that any pathologic state with either hyperexcitability or hypermotility will cause pains indistinguishable from those of ulcer. After the study of a patient he concluded that the ulcer pains are coincident with the contractions, but that these contractions are not usually any stronger than those of normal digestion peristalsis or normal hunger contractions, therefore there must be in addition a hyperexcitability of the pain nerves.

But radiography has demonstrated that in pyloric and duodenal ulcer hyperperistalsis and hypertonicity in the filled stomach are characteristic; then if the pains are due to a heightened sensitiveness to muscular contractions, why are they not present during the period of highly active motility when there is food in the stomach, and why do they come on suddenly in the empty stomach

when the contractions are found to be not greater than normal?

It has been surmised that the pains may be due to acid in the stomach wall itself acting upon the irritable nerves, but if this is so why is the pain not continuous or especially prominent during the digestive period?

Summary on Hunger Pains.—In many ulcer cases and so-called hyperacidity cases there occur "hunger pains" which are relieved by alkalies. These hunger pains are attributed to hypermotility, but are not present during the most active contractions of the stomach, and may be present when there are no contractions. They are attributed to pylorospasm, but are frequently absent during demonstrated pylorospasm. They are attributed to hyperacidity, but are not present when the highest acidity is present, and may appear when there is subacidity or anacidity. They are attributed to hyperesthesia, but are not brought out by the most vigorous peristalsis and the presence of food, and they are relieved by food and various substances which have irritant properties. We must, therefore, still consider that the cause of the hunger pains of ulcer or hyperacidity is not satisfactorily established, and that as a consequence we do not know how alkalies act to check them. We can feel satisfied, however, that *the relief of hunger pains by alkalies is not due merely to acid neutralization*.

In the administration of alkalies for these pains we may learn something from the habits of patients. In these cases physicians often prescribe 10 or 15 grains of sodium bicarbonate before meals or after meals with comparatively little relief. But the patient himself gets relief by taking half a teaspoonful or even a full teaspoonful of

sodium bicarbonate at the time when the pain comes on, that is three or four hours after meals. In repeated weighings I have found that a level teaspoonful or half teaspoonful not levelled of sodium bicarbonate weighs about 3.5 to 4.5 grams or 52 to 67 grains, and that a full teaspoonful weighs from 8 to 11 grams or 120 to 165 grains. Is it not probable that our doses are sometimes too small or given at the wrong time? Some of these patients tolerate well large doses of the alkalis, and perhaps even need alkali, for we have found frequently that half a level teaspoonful on arising and three times during the day was not sufficient to alkalinize the urine. But we have found also (1) that whether employing sodium bicarbonate or magnesia or a mixture of these, much smaller doses suffice for relief if they are accompanied by some carminative, such as peppermint, (2) that if sodium bicarbonate is in too strong solution so that its taste is salty it may irritate the stomach at first, and (3) that a bedtime dose will often suffice to forestall all night pains. We would therefore recommend that in cases with hunger pains the alkali be given in large doses, with peppermint or some similar carminative, with plenty of water, and at a period about three or four hours after the meal, or at about the time of the usual appearance of the pain.

In non-acid stomachs devoid of food, tho there is no neutralization, both magnesia and sodium bicarbonate may give relief from hunger pains. We might further note that while magnesia has always a laxative tendency, sodium bicarbonate also in not a few cases acts as a dose of salts to move the bowels; on the other hand calcium salts are constipating.

Digestive Pain.—By repeated test meals and by fractional tests it has been found

by a number of investigators that sodium bicarbonate or magnesia given before or after meals results in a compensatory acid secretion. Crohn found that 1 gram of calcined magnesia given half an hour before the meal increased the acidity, converting an average total acidity of 55.6 to 78; while, on the other hand, 0.6 gm. (9 grains) given immediately after the meal, and 0.8 gm. (12 grains) given three-quarters of an hour after the meal caused a slight decrease in average acidity. But in the last two cases the acidity at the highest point reached was above the highest reached in the control. A dose of 0.8 gm. (12 grains) of magnesia given one and three-quarter hours after the meal caused a rapid neutralization of the acidity without a secondary rise. Doses of 0.3 gm. (5 grains) given successively at three-quarter, one and one-quarter, one and three-quarter and two and three-quarter hours depressed the acid curve thruout, and after the third dose actually produced an alkaline reaction. Of sodium bicarbonate, a dose of 2 grams (30 grains) given three-quarter hour after eating changed the average acidity from 43.6 to 64. After 4 grams (60 grains) of sodium bicarbonate the acidity had increased in 15 minutes to a higher point than before the alkali was given.

According to Crohn's figures alkalis given before meals or in the early digestive period would tend to induce a more than compensatory high acidity, and sodium bicarbonate more than magnesia. This would make one feel that the condition calling for alkalis would be, not hyperacidity, but sub-acidity, were it not that large clinical experience proves the contrary. We have no data to show that following the digestive period alkalis promote acidity. As a matter of fact in the treatment of cases there

would seem to be little reason for reducing the high acidity of the digestive period, and as a rule no reason for neutralizing the acid completely and so abolishing pepsin digestion and the other valuable functions of hydrochloric acid.

Pains during digestion are probably not due to acidity, but rather to the contraction pull on stomach adhesions or even gall-bladder adhesions, to overfulness due to gas or the ingestion of too much food, and in some cases to ulcer towards the cardiac end where acidity does not reach a high point.

Retention Pain.—The late pains of retention are most frequently caused by gas distention associated with pyloric closure or possibly by irritating organic acids, but they may be due to hunger contractions which, when the stomach is hypertonic and the pylorus closed, are prone to take on a tetanic character (Crohn and Wilensky).

Both magnesia and sodium bicarbonate may promote the opening of a spasmodically closed pylorus, probably by neutralizing organic acids, but it is our belief that in distention cases sodium bicarbonate acts better than magnesia because of the carminative action of its liberated carbon dioxide. For pain due to adhesions alkalies can have little if any use.

Comparative Antacid Value of Alkalies.—It is obvious that greater doses of sodium bicarbonate than of calcined magnesia can be given, for the latter is very bulky and insoluble in water. But weight for weight magnesia can neutralize four times as much acid as can sodium bicarbonate, and it does this more slowly and without the production of gas. The heavy magnesia has the same neutralizing power, weight for weight, as the light, but it is three to three and one-half times as dense. Of magnesium car-

bonate or calcium carbonate 5 grams are equivalent to about 2 grams of magnesium oxide. Of the milk of magnesia 21 c. c. are equivalent to about 1 gram of calcined magnesia or 4 grams of sodium bicarbonate. In the popular rhubarb and soda mixture there are only 0.014 grams or about two grains of sodium bicarbonate in each teaspoonful (4 c. c.), therefore, for efficient action this preparation might well be fortified by added alkali.

Time of Passage from the Stomach.—How long may we expect our alkali to remain in the stomach? Cohnheim and Best showed that sodium chloride given in 2 per cent. solution takes much longer to leave the stomach than physiologic saline, and T. R. Brown found that certain saline waters, for example, Hunyadi, even when administered in isotonic strength, remained in the stomach till made decidedly hypotonic by fluid added by osmosis thru the stomach wall. Morse, with solutions of sodium chloride above three per cent., also noted an increase of fluid by osmosis. Spencer, Meyer, Rehfuess and Hawk observed that while a one per cent. solution of sodium bicarbonate hastened the emptying of the stomach, yet a 5 per cent. solution remained in the stomach till it was considerably reduced in strength. They attributed this reduction to acid secretion. It is probable then that in the acid-containing stomach devoid of food, sodium bicarbonate whether remaining as such or converted into sodium chloride, or magnesia which is changed to the chloride, must probably form a hypotonic liquid before it passes the pylorus. We might note that a level teaspoonful of sodium bicarbonate in a glass of water makes such a hypotonic liquid. As sodium bicarbonate in the acid stomach is converted quickly to chloride it probably empties more

rapidly than the more slowly formed magnesium salt.

Sodium chloride in the duodenum has been shown by Sato to lessen the volume of the gastric secretion. Can it be that this is ever a factor in the reduction of gastric pain, and may we figure that perhaps sometimes administered sodium bicarbonate expresses itself chiefly as sodium chloride in the duodenum and carbon dioxide in the stomach?

That alkalies by neutralizing acids have no especial curative action on ulcers themselves would seem to be indicated by the experiments of Dragstedt, who found time experimental ulcers required no longer time for healing and displayed no more tendency to chronicity when exposed to normal gastric juice than did similar lesions in the absence of gastric juice.

Time does not permit discussion of the possibility of harm from the continued use of magnesium salts on account of their action in stopping salivary digestion (Hawk) and in displacing calcium. Time also forbids the consideration of the possibility of alkalosis production from the continued use of alkalies, but the author believes this an improbable result from ordinary stomach doses unless the kidneys are impaired.

Conclusions.—1. Hunger pains cannot be attributed solely to any one of the following factors: irritation by food, hyperacidity, pyloric spasm, hyperperistalsis, hunger contractions or gastric hyperesthesia.

2. Alkalies check hunger pains whether there is hyperacidity, normal acidity, subacidity or complete achylia.

3. To check hunger pains alkalies should be given in full dosage and about the time of onset of the pains. Both sodium bicarbonate and magnesium are effective.

4. To check pains of the digestive pe-

riod alkalies are not effective except when the pains are due to distention.

5. To relieve distention at any period alkalies act best if accompanied by a carminative such as essence of peppermint. Without the carminative sodium bicarbonate is better than magnesia.

6. In retention from pyloric spasm alkalies given in the late digestive period not only relieve distention by causing belching, but probably also enhance the emptying of the stomach by favoring pyloric relaxation.

7. In spite of the finding that alkalies promote the secretion of acid in the digestive period, these drugs cannot be recommended for the treatment of subacidity.

8. Alkalies have no direct healing action on acute ulcers.

9. The value of alkalies is not to be measured by their power to neutralize acids.

10. Light magnesium oxide (calcined magnesia) has four times as much antacid power as sodium bicarbonate, but lacks its carminative action.

11. Magnesia has the action of a saline cathartic on the bowels, sodium bicarbonate is laxative in some people, calcium salts are constipating.

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57 West 58th Street.

COLOSTOMY—ARTIFICIAL ANUS.

BY

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Colostomy is an operation whereby an opening is made in the bowel after it has been attached to the abdominal wall and having for its object the diverting of the fecal stream.

The term colostomy has superseded the older word "colotomy" as more properly describing an artificial anus. This artificial opening may be intended for temporary or permanent use according to the nature of the patient's ailment. Its field of usefulness is limited to the pelvic bowel because in lesions within the abdomen a lateral anas-

tomosis, or implantation of the ileum into the rectum, secures the same results without the disadvantages of the abdominal anus.

Colostomy is indicated in

1st. Ulceration of the pelvic bowel due to catarrhal disease, dysentery, tuberculosis or syphilis.

2nd. Inoperable stricture and neoplasms of the sigmoid or rectum.

3rd. Congenital malformations, imperforate anus, atresia vesicales or atresia urethralis and mega sigmoid.

4th. Inoperable fistula opening into the bladder or urethra.

5th. As a preliminary step to extirpation of the rectum or as a permanent part of the surgical procedure where it is impossible to reestablish the intestinal canal after resection of the diseased portions.

6th. Where the sphincters have been destroyed by previous operation.

7th. Multiple polyposis of the sigmoid with exhausting hemorrhage.

As a preliminary step in resection of the bowel for cancer or stricture of the rectum where it is hoped to reestablish the continuity of the fecal tract a temporary colostomy affords an opportunity to make an examination of the abdominal contents and determine the local extent of the disease together with the amount of involvement of neighboring organs (bladder and uterus), the lymphatics and the liver. Also whether the sigmoid is sufficiently long and healthy so that it can be brought down to the lower segment.

The descending colon usually has a very short mesentery, its posterior one-third lies behind the peritoneum and is somewhat fixed to the posterior abdominal wall. The sigmoid, however, is completely surrounded with peritoneum and has a long mesentery, varying from three to six inches in length.

Two different procedures are designed to fill the indications for temporary or permanent anus.

Temporary Colostomy.—The temporary colostomy must be so constructed that when it has served its purpose and is not further needed the opening may be closed without endangering the patient. The older types of operation necessitated resection of the bowel and this procedure was more fatal than the original operation. The present temporary colostomy, however, can be made in such a manner that the artificial anus may be closed without opening the peritoneal cavity or resecting any portion of the gut.

Temporary colostomy is indicated in cases in which the disease is curable by treatment or surgical procedure and in which it is possible to reestablish the normal fecal canal. The indications for a temporary colostomy has been much more restricted since the introduction of appendicostomy and cecostomy.

The site of the artificial anus depends upon the location of the disease and the treatment to be adopted. When local treatments are being given the new anus may be placed at any point above the disease, but when operative procedures are to follow, the anus should be placed sufficiently distant from the disease to allow freedom in removing the diseased portion and in rebuilding the structures afterwards. The artificial anus must be so placed that it will not interfere with the reestablishment of the normal fecal current if such be possible. Any portion of the colon may be used for this purpose. In planning the abdominal anus it is essential that there be free exit of the feces as well as a blocking of its progress into the bowel below, and also that it can be eventually closed with the least

possible disturbance and danger to the patient. This implies without opening the peritoneal cavity or resecting any portion of the gut.

Sometimes the sigmoid has a very short mesentery which prevents the bowel being drawn well outside of the abdomen, or inflammatory adhesions may produce the same condition. In such patients the colon higher up must be used because if the bowel is drawn up forcibly it will cause the patient much agony afterwards due to traction on the mesenteric nerves and later the colon will retract and tend to close the aperture, thus frustrating our purpose.

The majority of permanent colostomies are performed as a step in the relief of cancer of the rectum where it is found necessary to excise the rectum and sphincter muscles and where the continuity of the bowel cannot be reestablished. An anus in the normal location but without sphincters is a torture, whereas an abdominal anus properly constructed can be made comfortable.

Operative Technic.—As this procedure is often carried out in urgent or extreme cases it may be performed under local anesthesia.

The patient receives the usual preparation for a laparotomy. The pubes are shaved and the abdomen scrubbed with green soap and water and dressed with a light sterile dressing the night before the operation. After the patient is anesthetized the abdomen is painted with tincture of iodine. In emergency cases such detailed preparation will be impossible and the patient will be prepared on the operating table.

The abdomen is opened thru a 4-inch incision beginning below and one inch to the left of the umbilicus. The muscle and

fascia fibers are carefully split by blunt dissection, and not cut across; thus preserving their function. All bleeding is checked before the peritoneum is opened. As the peritoneum comes into view it is lifted up with two pairs of hemostats and carefully nicked open between the two forceps. The omentum and intestines are usually close against the peritoneum which must therefore be lifted up and opened cautiously to avoid injuring the underlying structures.

The patient is now placed in the Trendelenburg position to assist in clearing the pelvis of the loops of small intestine and the omentum. The abdominal opening should be made large enough to permit the introduction of the hand, to carefully explore the pelvic and abdominal cavities, the liver and the lymphatics, before attempting to find the sigmoid. By this examination the collapsed portion of the bowel below the obstruction is located and the best location for the colostomy determined. With the hand well down in the pelvis, one may locate the rectum and passing upward secure the lower loop of the sigmoid and drag it out of the wound at the same time definitely knowing which is the upper and which is the lower segment. The sigmoid and colon are recognized by the longitudinal muscular bands and the appendices epiploicae. The transverse colon may be mistaken for the sigmoid when it is prolapsed.

Fixation of the Gut.—The sigmoid is pulled out of the wound until the upper loop is taut in order to avoid subsequent prolapse. A bloodless spot in the mesentery is selected. An incision $1\frac{1}{2}$ to 2 inches long is made thru the mesentery, parallel to the direction of the blood vessels beginning close to the bowel. A second incision about 1 inch long is made across the end of the first incision at the mesenteric at-

tachment of the bowel. Two strips of gauze are placed in the upper end of the T incision, and when these are pulled apart, a good sized opening in the mesentery is created. The abdominal wall may next be closed thru this opening in the mesentery. If a permanent abdominal anus is decided upon the bowel is clamped at the point where the mesentery was incised and then cut across with a cautery. The lower segment is closed with Lembert sutures and dropped back into the pelvis. The median lip of the abdominal wound is then pulled aside, and a bundle of muscle fibers, $\frac{1}{2}$ inch wide is separated a distance of 2 inches, and the upper loop of the bowel is pulled thru the opening. A similar $\frac{1}{2}$ inch bundle of fibers is separated from the outer lip of the wound and the gut pulled through that opening. In this way a figure-of-eight sphincter is formed. The bowel is now drawn 1 inch outside of the skin and the abdominal wall carefully closed about its sides. A Paul tube is inserted in the protruding bowel end and fastened with a purse string. If a temporary colostomy only is needed the abdominal wall is closed thru the opening in the mesentery and the bowel is not severed. A glass rod about 4 inches long by $\frac{1}{4}$ inch thick is grasped and drawn thru the opening in the mesentery. This rod acts as a support for the bowel later. A pad of gauze is placed under each end of the rod to prevent injury to the skin. The parietal peritoneum is now attached to the bowel with several interrupted catgut sutures, and the wound is then closed with paraffined silk sutures passed thru the skin and fascia on one side and out thru the fascia and skin on the other side. In this way the wound is closed snugly around the protruding bowel. The lower loop of the gut may be compressed against the glass

rod. The whole exposed loop of bowel is smeared with vaseline and then wrapped with a piece of rubber tissue to prevent its adhesion to the dressings. A bountiful dressing of loose gauze covers the whole and is held in position with adhesive straps, being careful in applying the straps that they are not placed over the bowel. The intestine is not usually opened at this time. If there is a great distention of gas, a trocar is inserted to allow its escape and the trocar wound is immediately closed with a couple of Lembert sutures and sealed with collodion. If intestinal obstruction from fecal masses is threatened the bowel may be opened immediately, and a Paul's tube fastened in place with a purse string suture.

The bowel may be opened with safety in from 12 to 48 hours by an incision thru the longitudinal muscular band, extending from the upper angle to $\frac{1}{2}$ inch below the glass rod. A transverse cut is also made $\frac{2}{3}$ across the bowel at the level of the rod. The triangular flaps of the upper segment roll backward, the lower flap drops downward and inward closing over the lower opening. The fecal discharges are thus carried outside of the abdomen with scarcely any possibility of their getting into the bowel below. By this technic none of the intestinal wall is sacrificed, thus facilitating closure of the artificial anus later when that is deemed advisable, by simply suturing the T opening and without opening the peritoneal cavity. The glass rod is left in place for two weeks, being prevented from slipping by a narrow strip of adhesive plaster around each end and fastened to the skin. The opening of the intestine requires no anesthesia whatever. If the mesentery is to be incised, local anesthesia will be needed as sensory nerves are found here and any cutting occasions considerable pain.

The portion of the bowel used for the artificial anus depends upon what is intended for the subsequent procedures. If the disease is to be treated by resection of a portion of the gut below, the bowel is dragged out until the upper segment is taut, that as much as possible of the sigmoid may be left below for the reestablishment of the natural intestinal canal because the longer the loop below the artificial anus the easier will be the subsequent operation of extirpation or resection. With the new anus in this position the patient may sit upon an ordinary toilet seat with a pus basin underneath the opening and relieve himself with little or no trouble. The parts can be easily cleaned.

After Treatment.—There may be no evacuation for several days following the colostomy and particularly so if much opiate has been used. A laxative or injection thru the abdominal anus may be necessary, but as a rule, after the first evacuation, the bowels move satisfactorily. The patients soon learn to recognize beforehand when the bowel is about to empty itself. In those cases where the patient does not have good fecal control, a hernial truss may be placed to occlude the opening.

In some of the older types of colostomy the bowel is not drawn well out on the abdominal skin to make the opening, or the bowel is not completely divided. Later, the bowel retracts sufficiently to permit the contents to empty into the lower segment. If complete obstruction exists below or the rectum has been resected a large, painful tumor will be formed.

Closure of Colostomy Opening.—When the temporary colostomy is no longer needed the curled up triangular flaps may be carefully teased free from the adhesions and unrolled. Their edges are freshened to-

gether with that of the lower transverse flap and then united with fine silk sutures, closing the mucosa and over these the muscularis is united with Lembert mattress sutures. The closed bowel is then dissected free from the abdominal wall down to and exposing the peritoneum. The peritoneum is detached from the abdominal wall a distance of 1 inch all around the colostomy opening. This loosening permits the loop of bowel to drop below the level of the abdominal wall, which is then closed over the gut.

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CIRCUMCISION ETHNOLOGICALLY CONSIDERED.

BY

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Circumcision as a theme is utterly hackneyed and threadbare. Over and over again has the question been threshed out, thru centuries, from standpoints various and manifold, by numerous thinkers of divers peoples and tongues. Difficult indeed would it be to introduce into even any scientific discussion thereof essentially new matter, new scheme of arrangement or survey, new form of medium or expression. We approach the subject with no such hope and no such aim. It is purposed only to essay a critique of the logic involved—its phases, its lines, its ends. The general proposition may be affirmed that in all investigation the truth sought should at last remain as homogeneous grain sifted and winnowed free and clean of chaff and dirt and nondescript seeds.

In the estimation of the value of circumcision as a hygienic measure let it be

primarily noted that reason would require the exclusion therefrom of argument based upon data pertaining to benefits resulting from the operation employed as a remedial procedure. Its worth in the normal case can in no way be indicated by the help it affords in the abnormal case. The prevention or modification of pathologic manifestations by the correction of unnatural conditions constitutes no warrant for the conversion of a natural state into an unnatural one. The needs of the imperfect individual form no criterion of the interests of the perfect. The defective should not be the origin of rule for the effective. So the answer to the question of what is best for the normal man must be found thru study of the normal man. The laws of life are inherent in its typical, representative, standard forms.

Moreover, while truly any advantage accruing to a race from a practice common thereto is merely the average resultant of the advantage derived from that practice by the members of the race individually, yet, on the other hand, the proof of gain to the individual rests upon the circumstance of demonstrable benefit to the people as a whole. Inductive logic exacts that a single, separate phenomenon receive the stamp of law only by the sanction of group verification. Hence, tho primarily a question pertaining to man personally, the evaluation of circumcision is finally a racial problem. It is an anthropic lock with an ethnic key.

Furthermore, the reliability of induction as applied to the hygienic phase of circumcision will be vastly enhanced by its inclusion of parallel analytic study of the effects of the custom upon the different races respectively among whom it has prevailed. This is obvious and significant. In the case of any one people there will be found

several universal and constant elements to which progress and improvement *might be* attributed, this fact rendering the certain establishment of causal relationship extremely difficult. If in all instances the strict observance of circumcision were seen to be associated with eminent ethnic evolution it might not be an unreasonable presumption that the former was contributory to the latter. But, on the contrary, if in a few cases the practice of circumcision were concomitant with racial superiority, and, yet, most frequently were discovered to be connected with mediocrity or inferiority, then would the presumptive argument be diametrically reversed. Especially would the low and limited reliability of a positive inference drawn from a single instance be nullified or negated by contradictory conditions revealed elsewhere thru wider observation.

But at its best, inductive logic is slippery and elusive. It is liable to play all sorts of quirks and pranks, and to lapse into courses devious and misleading, unless controlled by a firm and steady hand, and by foresight keen and vigilant, kept to a straight, true line. Yet more than the instrument of sophistry is it the medium of fallacy. It is at once the surest path to truth and the most insidious trail of error. And the most arch and arrant of the false retainers parading in its livery is the fond and insinuating argument of hoary head, "*post hoc ergo propter hoc*." Again and again, and here and there, may phenomena appear together with no closer or more indissoluble bond than that of coincidence or of subsequence. Invariability, rather than frequency, of such connection warrants the assumption of a relationship of cause and effect between one occurrence and another following it. Barthez, paraphrasing Hume, says: "*Dans la*

succession des phénomènes naturels, rien ne nous présente l'idée de la causalité ou de la liaison nécessaire de la cause à l'effet; mais quand la succession d'un phénomène à un autre est constante, l'esprit humain qui l'observe assidûment, et qui souvent peut même la prévoir, est porté à croire que ces phénomènes se succèdent parce qu'ils sont enchaînés l'un avec l'autre."

As a further and last step in this examination of inductive logic, sole or total causality may be considered. To determine the probability of this as a property of any given factor it will be requisite to go beyond the conclusion that such factor as a cause is always followed by the same occurrence as an effect, and in addition to fairly establish that such occurrence as an effect is always preceded by the same factor as a cause.

Applying these logical criteria to the question of the hygienic influence of circumcision the deduction is indicated that the claim made for it of high merit as a positive and potent agency in the uplift of mankind must be supported by adequate proof of two indispensable conditions vital to the validity of said claim—first, that where the practice prevails the benefits claimed for it are evident, constant, uniform; second, that these same benefits are attributable to the measure alone or at least chiefly—invariability of salutary influence, and demonstrated connection between the assigned cause and such effect, are the crucial tests.

Turning to the historic aspect of the subject in hand, the Hebrew race immediately comes in thought as the one most prominently and authoritatively representative of the usage of circumcision. Here, truly, is displayed racial development to a rare degree illustrious. But will it be maintained from any quarter that circumcision

alone or predominantly brought the Jew to his worthy and commanding position in the world? Can it be shown beyond the limits of sheer hypothesis that even in a minor or partial way it has contributed to such eminent result? Is it not likely that this has been dependently connected with known elements and forces of vastly more considerable import and power? Indeed, from some of the intellectual lords of the race themselves have come utterances relative to the rite equivocal, if not actually disparaging. The law-giver of law-givers, law-giver greater than Solon, greater than Lycurgus, greater than Numa, the framer of a sanitary code which has been the marvel of ages, Moses, the adopted son of Pharaoh's daughter, deeply versed in all the learning of Egypt, permitted the discontinuance of circumcision during the whole of the forty years of the pilgrimage in the Wilderness, neglecting the practice even in the case of his own offspring, to the protesting indignation and scorn of his Egyptian wife.

A survey of circumcision at all comprehensive leads us thru the ages and over immense stretches of the globe's surface. The usage goes back to Chaldea, the Nile kingdoms, Phœnicia. It marks large sections of Asia and Africa, reaching in not widely broken extension from China to the Cape. Its not uncommon prevalence runs thru the Islands of the Pacific, the Indian Archipelago and Australia. It has occupied not inconsiderable areas of the interconnected continents of the Western Hemisphere. But it almost universally is associated with barbarism or savagery—the exceptions, tho distinguished, are few. What an array of low civilizations and benighted brains! The list is in sooth, more formidable than hopeful as a reliance in any ethnologic argument favoring circumcision as a helpful

ethnic procedure! Verily, its back-fire is more destructive than its front-fire is effective! As another feature of this welter of barbarism and savagery, female circumcision too is occasionally found. The fact, however, hardly merits the mention since competent and responsible advocacy of such practice will likely be lacking.

As a check proof in this argument from ethnology it may be well to glance at the relative status in the world of uncircumcised peoples—the view will be cursory and general. Mostly these peoples belong to the great so-called Aryan stock—the Hindu-European stock. They are principally Japhetic—circumcised races are mainly Semitic and Hamitic. Will anyone well informed and impartial deny for them superiority of a high order? It is no idle boast to acclaim them as conquerors. They are the victors of Marathon, the Metaurus and Tours. But they have been, besides, conquerors in other and nobler fields. They must be accredited with triumphs in literature, in art, in science, in morals. At this hour upon their shoulders, as upon the shoulders of an Atlas, rest the problems, the burdens, the interests of the world. And, yet, they have retained intact their fore-skins!

The findings of this ethnologic study may be epitomized thus—

Some nobler races have practiced circumcision, but a larger number have not practiced it.

Of the peoples accustomed to the procedure some have attained eminence, but many more have remained crude and debased.

In the civilizations including it as a feature that have advanced to an exalted plane, progress cannot be demonstrated to have depended in any way upon the practice.

Not Proven.—Is that not a safe and fair

conclusion to the ethnologic argument with regard to claims as to the possible and actual usefulness of circumcision? In conformity with this verdict it cannot be stated in any case that the practice is helpful. In all cases the best that can be said for it is this negative proposition of dubious reliability—perhaps it does no harm.

Taking leave of our thesis, just another word of comment and of tribute as to humanity's faithful friend, the eternal Jew. The writer will yield to none in respect and admiration for his qualities, his abilities, his attainments, his achievements. What a career, and what a record! He has brought out its best and finest and fullest note from every chord of life he ever sounded, but his triumphs are potentially in his natural self. And as logicians we would rather assign his greatness to more august causal factors than that of the ablation of a snip of his prepuce.

A PLEA FOR A CLINIC FOR THE SPECIAL TREATMENT OF THE DEAFENED.

BY

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President of the New York League for the Hard of Hearing,

New York City.

I am convinced that the only way that the average deafened person, who has to visit a free clinic for treatment, can receive a square deal is to make some provision for special classes for the treatment of deafness. Anyone who has worked in one of these clinics realizes only too plainly that the chief object is to rush the patients thru a form of treatment which does absolutely

no good, but irreparable harm for the patient becomes progressively worse. I might modify this statement by saying that certain patients are humbugged into feeling that they are getting better, but the improvement is mental rather than physical.

Is there any deaf patient who can honestly say that he is getting a square deal when he goes to the clinic for treatment? Are hearing tests ever made? Do the doctors ever go to the trouble of doing more than look at the drum, politzerize or catheterize and then write down OMCC? Does any one work out the psychology of the patient and advise him as to the value of a proper social and economic life and tell him of the necessity of taking lessons in lip-reading? Is there any one in these clinics who is doing research work on the subject of deafness? Is there any conscientious doctor in these clinics who would treat a private patient the way he does poor ones at the clinic? I am asking these questions so that the importance of what I have to advise can be brought home forcibly enough for one to realize the necessity of a clinic for the treatment of deafness only.

The doctors are not entirely to blame for this state of affairs. They can't help themselves for one thing and besides, the treatment of deafened ears is a tedious job and no promise can be made as to the ultimate result. If a patient comes into the clinic suffering with an acute condition of the ear, one can usually prognosticate. The doctor knows that, with the help of nature, the chances are in favor of his curing his patient. But the deafened person must come regularly, week after week, month after month, year after year.

My own experience in one of the largest ear hospitals in New York City is a fitting sample of what is done. You see that I

hold no brief for myself or the treatment that I gave these patients—or to put it more honestly, the non-treatment that I gave these patients. Our reception day meant the examination of one hundred new patients, on an average. Six doctors, working at one time, would have their hands full for at least two hours, making diagnoses and nothing else. Acute cases, which needed operation, had to be attended to that same afternoon. Ear drums had to be opened, furuncles had to be incised, mastoids had to be operated upon. The subacute and chronic cases were given a little medicine and told to return another day for treatment. Among these cases, of course, were the hard of hearing who, no doubt, had been to a number of clinics where they were treated in a similar manner.

What happened to the hard of hearing cases when they did return? A diagnosis of OMCC (chronic catarrhal otitis media) had been made. The citation of the diagnosis was on the card. In most cases the ears were not looked at again. A Politzer bag was attached to the patient's nose and an attempt made to inflate the ear. Often we doctors didn't know whether any air got into the ear or not. If a patient was particularly favored a catheter was used. I had never seen a proper hearing test made. I had never seen an attempt made to find out the particular type of deafness that the patient suffered from. Many patients continued with this inefficient kind of treatment for the course of a year and then went to some other clinic where the same process was repeated. The sad part of it all is that one cannot help feeling that a year lost in the early stages of deafness may mean a permanent harm.

Again, let me repeat, I do not wish to convey the impression that the doctors work-

ing in these clinics are at fault. They simply cannot help themselves. So many people come for treatment, the doctors are so rushed, the time is so limited, the amount of treatment necessary in any given case means hours of work which they haven't got to give, that with the present system the poor deafened person has to suffer. Moreover, one must realize that these doctors are giving their services for nothing and that they must attend to their private cases to make a living. In no other class of cases does a patient get more exactly what he pays for—nothing.

Now let us look at the picture from another point of view. What happens to cases that are treated privately? A great many continue to be deaf and get deafer, but the proportion that are improved is far greater than among those treated in a clinic. The results depend a great deal upon the personal interest that the doctor takes in the case and, I might say to a great extent, on the amount of interest he has in the subject of deafness. If a doctor treats all cases of deafness along empirical lines, following out the old methods of treatment without attempting to differentiate his cases, he will benefit his patients very little. If, on the contrary, he classifies his cases properly, he is bound to reap his reward in the end.

In private practice the doctor takes the trouble to get a complete history of his case. He goes into antecedents. He finds out if other members of the family are deaf. He inquires about syphilis and, if necessary, takes a Wassermann test. He goes into the diseases of childhood and finds out what the former methods of treatment have been. He analyzes his patient closely while taking the history. He then makes a thorough examination of his patient. He inspects the nose and throat carefully. He transillu-

minates the sinuses and takes an X-ray picture. He passes a nasopharyngoscope into the nasopharynx so that he can find out the exact condition of the Eustachian tubes. He sees whether the tube is stenosed and if too little or too much air passes into it. He notes the condition of the drum, whether it is relaxed or retracted. Then he makes proper hearing tests until he knows just how deaf his patient is. After he has all this data at hand he is in a position to tell his patient exactly what he thinks and is able to outline the proper method of treatment. The routine examination of such a case takes from half an hour to an hour. It is absolutely necessary.

I wish it were possible to go into all this detail in the ear clinics as they are constituted today, but I have shown you that it isn't possible. But this state of affairs can be corrected and should be corrected at the earliest possible moment by the establishment of clinics which are strictly limited to the treatment of deafness. The benefits would be fourfold:

1. The patients would be more carefully looked after.

2. Doctors, who are interested in this line of work, would have the opportunity to study their cases more carefully.

3. The clinic could be made into a post-graduate teaching course so that out-of-town men could come here and learn all the newest advances in the treatment of deafness.

4. It would stimulate men to do research work so that, in the course of time, we might feel that we were treating deafness with more surety.

1. There is no doubt that if a clinic for the treatment of deafness were established, the patients would be greatly benefited, for it would be absolutely necessary to take

time and trouble to treat the patients properly. The doctors would have no outside interests—something that would detract them from treating these patients as they deserve. The question may properly be asked, "If each individual patient needs so much time, how will it be possible to treat all the cases that will come to the clinic? Won't you be in as bad a position as you were before?" I believe not for many reasons, chief among which is that any doctor who works there does so to help a deaf person and he will spend the time necessary over a given case. In the beginning, the clinics would necessarily have to be small and under no circumstances should an attempt be made to handle more cases than can be conscientiously treated. In order to keep up the interest in the work the doctors should be allowed to treat the cases from the beginning to the end. They should do all the intranasal or operative work necessary, instead of sending the case to a nose and throat clinic.

2. There are many doctors in a city like New York who are very much interested in the treatment of deafness. They feel, as I do, that it would be God-send if they were able to work in a clinic which was devoted to this ailment alone. Like all doctors, they are anxious to learn.

3. The average doctor, who comes to a large city like New York for post-graduate study, often desires to take up a special line of work. He may be an all-round nose, throat and ear specialist who desires to go to a medical center to perfect himself in direct laryngoscopy, sinus operations or in the treatment of deafness. Today he goes to one of the post-graduate institutions where the teaching is done on the clinic patients, with the result that he doesn't get what he is after. Many of these men

will tell you that they would like to learn how to treat deafness properly, but that no one seems to have the time or interest to teach them. We should be in a position to disseminate such knowledge, a thing that can only be done in a special institution.

4. Research work along the lines of treatment of the deaf has been most sadly neglected, particularly during the past years when more supposedly interesting conditions present themselves to the otologist. Such work can readily be done in connection with a well-organized clinic where a group of men have their minds constantly on the subject. There are numerous interesting problems that present themselves. For example, there is no way of telling but what an operation may be devised that will suitably improve certain cases of adhesive deafness. The writer began some work along that line in 1916-1917 and there is no doubt in his mind that more extensive research on the suggestions he put forward at that time will result in something worth while.

The organization of a clinic for the treatment of deafness is not a difficult matter. It could either be established in connection with some post-graduate institution or else could be run under the direction of an organization like the New York League for the Hard of Hearing, which is so greatly interested in problems of the deaf. If such work were carried on in connection with a post-graduate school, it would be necessary to have it clearly understood that all nose and throat work should be attended to by the doctors who have charge of the deaf clinic. It would be useless to have one clinic take care of one part of the case and another part another. Such a question would not arise if the work were taken over by the League.

Such a clinic would not take up a large amount of room. Three or four examining booths, a registry room, a sound-proof ear-testing room, an operating room and a patients' reception room are all that are necessary. The proper armamentarium would be fairly expensive, but I am sure the majority of patients would be only too glad to pay a small fee which could easily defray such expense in a short time. I feel certain that if the proper interest could be aroused there would be no difficulty in getting all the room necessary for showing the worth of the project.

The New York League for the Hard of Hearing has shown very plainly that the deafened are willing to get together to help one another. The League has often mentioned adding research work to the numerous problems with which it is engaged at present. It has not done so because no definite plan has been presented to the directors. If they popularized the idea of a clinic for the deaf, they would be able to interest a great many well-to-do people who show luke-warm interest in the League's social and economic problems. Each deaf person would feel that in such a clinic something might be discovered which might be of benefit in his particular case. Certainly he feels now that not as much is being done for him as might be.

2178 Broadway.

Epilepsy has been cured with peach root tea; adult, three or four ounces of the infusion daily.—*Med. Progress*.

Hot house people are like hot house plants. They can't stand exposure to severe weather, says the United States Public Health Service. Sleep with the windows open and keep every room well ventilated.

A STUDY OF CYSTITIS.¹

BY

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Inflammation of the urinary bladder results from a variety of causes and on account of its peculiar and intimate relation to the kidneys and ureters on its proximal part, and the urethra, prostate gland, and seminal vesicles, on its distal part, practically all causes of cystitis may be conveniently regarded as secondary to, and accompanying pathologic conditions of these organs.

In the pathology of acute cystitis the bladder wall, especially at the neck and base, undergoes the characteristic morbid changes of inflammation. The mucous membrane is deeply congested, thickened and softer than normal, due to infiltration with inflammatory products, and to the engorgement of capillary blood vessels, causing the mucous membrane to be thrown into folds, and to exude mucus, pus and blood. The epithelium is, in places, desquamated, and in other places, heaped up as a result of definite proliferation, all of which tends to a general contraction of the viscus, with a corresponding reduction in its tolerance and its holding capacity.

In chronic cystitis the connective tissue frame-work becomes denser and more compact, in consequence of chronic inflammatory complications, and where obstruction to the free flow of urine, or retention is

present, an hypertrophy of the musculature is added, thus increasing the thickness of the bladder wall, which reduces its holding capacity. Cystoscopically, the mucous membrane is seen to stand out in bands, which run around and across the internal surface of the bladder, the so-called trabeculae, or fasciculations which, in the continued presence of obstruction to the free outflow of, or retention of urine, especially in old and debilitated individuals, may result in secondary atrophy in general, or in areas, forming one or many diverticulae.

Acute Mild Transitory Cystitis.—The mucous membrane of the bladder, in common with all tissues of the body, is subject to systemic circulatory changes. Excessive alcoholic and dietary indulgence, exposure to cold, and getting the body and feet wet may produce in susceptible individuals, and especially in the aged, an acute congestion. The urine contains a small amount of muco-pus, there may be little or no subjective symptoms, and the condition may pass unnoticed. Avoidance of the producing cause is the logical remedy. Acute cystitis, due to hyper-acid urine, is also a mild and transitory condition, and may account for the so-called "irritable bladder." Copious draughts of water and the administration of potassium citrate in ten-grain doses, four times daily, together with regulation of the diet and bowels, are usually sufficient.

Toxic or Chemical Cystitis.—The administration of certain drugs, notably, cantharides, turpentine, copaiba, cubebs and large doses of hexamethylenamin excite a more or less acute cystitis; likewise, the instillation or irrigation of the bladder with strong solutions of silver nitrate, bichloride of mercury, or permanganate of potash, depending on their concentration, may cause

¹ Read before the Clinical Society of the N. Y. Polyclinic Medical School and Hospital, April 5, 1920.

a very severe grade of inflammation, manifested by severe ardor urinæ and strangury. In the above instances the history is easily obtainable and the cessation of the cause, copious draughts of water, codeine or morphine and alkaline diuretics; hot full baths, sitz baths, hot wet applications over the hypogastrium, and to the perineum, and hot rectal irrigations of saline solution give the quickest relief.

Acute Gonorrheal Cystitis.—This type of inflammation in the male is most frequently encountered as a direct result and extension of gonorrheal urethroprostatitis, which generally follows in two weeks after the invasion of the anterior urethra, by the gonococcus. In the mild cases increased frequency in urination, nocturia, slight discomfort, or a feeling of fulness in the hypogastric or rectal region, are complained of, altho even these symptoms may be absent. On the other hand, all the classical symptoms of the severer form may be present, such as marked frequency precipitancy, pain, burning, tenesmus and terminal hematuria. Retention of urine may supervene, due to the intense congestion and swelling of the mucosa at the internal orifice, accompanied by spasm, and to the acute swelling of the prostate gland.

Diagnosis.—Pyuria and the history or knowledge of a recent gonorrhea or the demonstration of the gonococcus in the urine, or in the urethral discharge, clinches the diagnosis. While it may be argued that acute urethroprostatitis may give the above identical symptoms, and, therefore, does not necessarily prove that the bladder is involved, still experience clinically teaches that such a severe acute prostatourethritis invariably involves the neck of the bladder. The treatment of acute gonorrheal cystitis is that of its cause; for the retention of

urine, hot full baths, sitz baths or hot, wet applications over the hypogastrium and to the perineum may suffice, if not, a sterile, soft-rubber catheter, well lubricated, should be passed into the bladder as often as necessary and, when the bladder has been emptied, an ounce of a five or ten per cent. solution of argyrol should be injected partly into the bladder and partly along the urethra as the catheter is withdrawn.

Rest in bed in a comfortably warm room is desirable; the internal administration of codeine, grain one-half, the fluid ext. hyos. gtt. 5, and pot. cit. grs. 10, every six hours relieves the pain, burning and tenesmus, and renders the urine bland and unirritating. Except for the relief of the retention of urine in these severe cases of acute cystitis all local treatment to the bladder is contraindicated, as such will only be productive of harm and aggravate the inflammation. In all cases of acute cystitis, uncompromising abstinence from alcoholic beverages and the occasion of sexual excitation or sexual indulgence should be enjoined; the avoidance of unnecessary physical exertion, such as dancing, playing tennis, baseball, football, long automobile rides and horseback riding and the abstention from condiments, asparagus, strong coffee or cocoa are urgently advised.

Acute Traumatic Cystitis.—This type of inflammation may be caused by wounds of the bladder from without, but is more commonly seen as the result of injury and infection introduced thru the urethra, such as the introduction of foreign bodies, rough or unclean instrumentation in the passage of sounds or catheters and the blind efforts in the process of lithiopaxy, and so severe may be the reaction that in addition to the symptoms enumerated above as accompanying gonorrheal cystitis there may be chills,

fever and marked prostration; locally, the desquamation of small or large sheets of epithelium and muco-pus are voided with the urine, the so-called exfoliative cystitis. I can vividly recall two such cases; one, a young woman who introduced a cork into her bladder; the other, a man who had a calculus removed in toto with the aid of the urethroscope, the trauma causing in each case exfoliative cystitis.

The treatment of these cases should be entirely palliative after the cause has been removed and along the lines described above and except for the relief of retention of urine all instrumentation should be discontinued.

Tuberculous Cystitis.—A special form of vesical inflammation is that which depends upon tuberculosis. Tuberculous cystitis is always secondary to tuberculosis of the kidney or to tuberculosis of the testes; it is associated with marked ulceration; at first the ulcers are small, have a grayish, depressed base which shows the presence of caseous material and are surrounded by heaped-up, overhanging edges, and in appearance similar to that of a tuberculous ulcer of the intestine. Tuberculous cystitis should always be suspected in all cases of intractable bladder inflammation, and the attention of the physician will be more promptly brought to this consideration if it will be remembered that tuberculosis of the bladder makes that viscus intolerable to all attempts at local treatment, such as instillations or irrigations; that any instrumentation no matter how gently employed causes much distress and finally that the bladder is invariably contracted with corresponding decreased holding capacity, frequently retaining so little as to virtually amount to incontinence of urine. Pyuria of the acid variety is constant; the history

is that of a long continued irritability, frequency in urination, burning, pain and tenesmus. The urine contains blood and the microscope generally demonstrates the presence of the tubercle bacillus. There is generally a loss of weight and evidence of tuberculosis may also be demonstrated in the lungs. Cystoscopic examination in advanced cases shows marked congestion of the trigone and especially at the mouth of the ureters, where evidence of ulceration may be distinguished. Catheterization of the ureters decides which kidney is at fault. The treatment is surgical and directed to the kidney, not to the bladder.

Chronic Cystitis.—The commonest causes of chronic cystitis met with in regular daily practice are due to chronic gonorrhea and stricture of the urethra; less frequently are prostatic hypertrophy, vesical calculus, tumors of the bladder, pyelonephritis, pyonephrosis and extravesical pelvic lesions. The treatment of the accompanying inflammation should be the treatment of the underlying cause. Measures directed to the inflammation alone can but be of a palliative nature where surgical intervention is indicated and justifiable. To merely call attention to the above, and not to attempt any lengthy discussion, is all that can be done in a short paper of this kind. The treatment of chronic gonorrhea of the prostate gland and seminal vesicles by massage, instillations or irrigations of the various drugs used for that purpose, such as permanganate of potassium, silver nitrate, acriflavine or argyrol, is essential to the clearing up of the cystitis. Full dilatation of the stricture of the urethra is necessary when cystitis is the result of this condition. Removal of the hypertrophied prostate gland and vesical calculi, fulguration preferably, or the surgical removal of tumors of the bladder and

the treatment of extravescical pelvic lesions are necessary when inflammation of the bladder is dependent upon them.

Cystoscopic examination and ureteral catheterization must be employed in combination with the X-ray to determine the location of the cause of cystitis when this inflammation is suspected of being secondary to renal disease.

Cystitis Due to Paralysis of the Bladder.—This condition is not infrequently encountered in early adult life as well as in the aged and is the result of pathologic changes in the cerebrospinal system, especially seen in *tabes dorsalis*, myelitis and in injuries of the spinal cord. If the body of the viscus alone is paralyzed, retention of urine results; if the sphincter of the bladder is paralyzed, incontinence follows. In the former case atony of the bladder wall supervenes, resulting in thinning out and weakening the muscularis, with accompanying trabeculae and diverticulae. Stagnation of urine and over-distention are followed by alkaline cystitis. Partial incontinence or overflow occurring in cases of prostatic hypertrophy should not be confounded with incontinence of cerebrospinal origin, altho both may exist in a given case.

In paralysis of the bladder from cerebrospinal syphilis or from trauma, retention should be relieved by catheterization, followed by antiseptic local medication, the administration of hexamethylenamin and specific general medication instituted. Long standing cases of cystitis produce organic changes in the mucosa and deeper layers of the bladder, even when the original cause is removed, which no amount of treatment will cure, leaving the patient with a low grade inflammation which in no way interferes with the general health.

In all cases of cystitis the urine should

be voided into two clean glasses, specially kept for that purpose in the physician's office and not brought in bottles, as after standing chemical changes take place and the specimen may, therefore, present a decidedly different appearance from what it was when voided. If the patient is instructed to retain his urine for the same length of time before each visit, a fair comparative estimate can be made as to the progress of the case and suitable modification or change in the local treatment made as indicated. In the absence of tumor, hypertrophy of the prostate gland, stone and tuberculosis, over treatment often explains increased symptoms and pyuria and a stoppage of all local intravesical applications often results in clearing up an otherwise rebellious cystitis, dependence being placed on rest, internal medication and hot saline rectal irrigations.

172 W. 79th Street.

PYORRHEA ALVEOLARIS.

BY

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Of all the diseases that we have to contend with in the mouth, I believe that pyorrhea alveolaris is the least understood and the most abused; nevertheless, to most dentists, it is a considerable source of income. Technical and learned discussions relative to the cause, effect and treatment of this disease have been numerous, theories have been advanced, many experiments made, and still this disease abounds in mystery.

It is believed that at least seventy per cent. of civilized people suffer from it.

In some cases we may effect cures, in others relieve to such an extent as to give the teeth a long lease on life, and yet in

other cases we may be able to render no assistance whatsoever.

We know that pyorrhea alveolaris and associated mouth infections are held responsible for many diseases such as infective endocarditis, gout, nephritis, pneumonia, anemia, tonsillitis, pernicious anemia, stomatitis, iritis, septic infection of joints, rheumatic conditions, ulcer of stomach, tuberculosis and many kindred diseases too numerous to mention; in fact, this disease lowers the vitality to such an extent that we may be open to any infective disease.

Dr. Steadman of London believes that a chronic septic condition of the mouth is by far the commonest predisposing cause of cancer. If it be true that oral sepsis dose predispose those afflicted to cancer, we would expect to find most cancers occurring in those parts of the body mostly infected by the constant swallowing of pus (the alimentary canal and its associated parts). Statistics show that most cancers occur in the alimentary canal; and most people suffering from cancer in these parts have advanced pyorrhea alveolaris. This fact would seem to be highly significant.

And now that we know what infection can do, we should strive in every way known to science to overcome it. By infection we mean the manifestation of disease caused by the entrance of micro-parasitic organisms into the body and their multiplication and action therein.

It has been found on attempts to isolate the bacteria in pyorrhea cases, that these are mostly mixed infections, principally streptococcus, but also staphylococcus, usually of the aureus type, pneumococcus, micrococcus catarrhalis and the influenza bacillus.

It appears that infection depends upon certain conditions: the difference of indi-

viduals, the amount of protective elements present in the blood, the health of the body, thyroid activity, condition of teeth and tissues, etc.

Some people seem immune from certain infections, while some tissues and organs of certain individuals seem to have in one case immunity while in another susceptibility.

Pyorrhea alveolaris it seems to me is not due to any one particular cause, but may owe its origin to local or constitutional conditions, or both. I am inclined to believe in severe cases it is constitutional, for the disease seems to increase. It is doubtless true that American vitality is gradually lowering, partly thru defective prenatal development, but rather to habits of living that have developed with the refinements of civilization—notably the excessive consumption of alcohol, tobacco, and excessive protein fare, and the lack of active exercise necessary to oxidize the food and carry off the accumulated poisons. Thus the average man who labors all day in the sedentary employments of an office life lays a heavy strain on his liver and kidneys by overloading his stomach three times a day with food which gives the teeth and gums little work to do, takes little or no exercise and so fails to dispose of an abnormal quantity of waste. Through the immediate action on the vascular system of irritant poisons formed in the intestines, overeating creates hypertension, and this is the all too frequent cause of arterial hardening, creating any number of diseases. I believe, moreover, that autointoxication plays a leading part in pyorrhea alveolaris.

There is no one specific cure for this disease; each case should be taken separately and studied carefully, with a history of the patient and a urinalysis. Then we are in a

better position to determine our course of treatment.

Pus around the margin of the gum does not always indicate pyorrhea alveolaris and this may be cured by the removal of calcareous deposits; it has been pointed out by authorities that while general systemic conditions may cause mouth infections and alveolar disease, alveolar infections may be the cause of chronic systemic diseases.

Some of the local causes of pyorrhea alveolaris are bad fitting crowns and bridges, bad fillings, edges of cavities and irregular teeth, also improper occlusion.

During the process of pyorrhea alveolaris all the stages of inflammation, diseased bone and the overlying tissues may be found that are present in other diseased bones of the body, however, in this case inflammation of the bony socket is perpetuated by the calcic deposits about the teeth or by bacterial infections which find lodgment in the cancellous bone, much of which may be destroyed.

Pyorrhea alveolaris is sometimes confounded with Vincent's Angina; also with catarrhal and traumatic gingivitis.

I shall not go into the various treatments for this disease, as they are too numerous and varied; each case should be studied carefully or we will not get results; our progress in the last few years may seem very slow, but we have much to be thankful for and owe much to the untiring scientific students who are continually experimenting and devoting much time towards working out new theories with the hope that we may soon find a cure for this deadly and mysterious disease.

Burn.—The severe pain of a fresh burn may be relieved by immersing the part in cold water.—*Ind. Med. Jour.*

THE TREND OF THOUGHT ON VACCINE THERAPY.

BY

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In therapeutics we are always confronted with the question of the efficiency of the agent employed. It is not an easy matter to demonstrate the therapeutic efficiency of a remedy to the satisfaction of everybody, because the natural tendency is to recover from infectious diseases. Infections are of such common occurrence and spontaneous recoveries are so much the rule that very exacting and painstaking inquiry is necessary to establish real therapeutic efficiency. If the therapeutic value of a remedy is established, we are at once confronted with the question of a possible better remedy.

Laboratory workers are strongly of the opinion that real therapeutic efficiency can only be established by animal experimentation and they have so persistently insisted on the importance of such deductions that many efficient therapeutists have been led to believe that therapeutic measures which have not been standardized by animal experimentation are of questionable value. The obstacles in the way of proving the therapeutic value of therapeutic agents are so numerous and difficult that more attention is now being directed towards clinical evidence as a true guide in our therapeutic efforts. Bacteria, pathogenic to man, do not always act the same, even on susceptible animals in their immunologic relations. Induced infections do not bear the same relations to the immunologic response that obtain in infections contracted in the usual way. Most experimental animals possess sufficient natural resistance to the organism

which is employed in the experiment, that an infection would not be contracted by ordinary exposure; consequently the infecting organism must be injected into the animal in sufficient quantity to temporarily break down the existing natural resistance. Naturally, the course of the infection is not the same as when the same organism is responsible for an infection in man.

Animal experimentation gives us some valuable information in a general way on immunologic problems, as shown by the development of antibodies, precipitins, agglutinins, opsinins, etc. Who would attempt to experimentally produce a furunculosis for the purpose of determining the therapeutic value of a staphylococcus vaccine in the treatment of furuncles? No one has ever had an opportunity to experimentally determine, on animals, the value of an acne vaccine. Yet the therapeutic value of vaccines in the treatment of furunculosis and acne is well established as a result of clinical experience. This is strikingly brought out as the result of shock therapy from the intravenous injection of bacterial suspensions. It is found that, after injecting an average small dose of a bacterial suspension into a vein in the presence of an acute infection like typhoid fever or rheumatic fever, in a short time the patient will have a chill, followed by fever with marked improvement in the clinical condition within a day or two, in a large percentage of cases, and with a rapid advance toward a complete recovery in many cases. No animal experiments were responsible for determining this effect from the intravenous injection of bacterial vaccines. The results from this method are too spectacular for laboratory technologists to disregard the results; so to square themselves, instead of giving clinicians due credit for

their observations of the specific immunizing effect from the hypodermic use of vaccines, they contend that the results obtained are due to a non-specific immunizing influence similar to that obtained from intravenous injections. At first the technologists contended that the hypodermic use of vaccines in acute infections could have no beneficial effect because such effect could not be experimentally demonstrated on lower animals. Now, they attempt to explain the results obtained on the non-specific protein theory. The encouraging part of the entire controversy consists in the fact that clinical experience is gaining recognition.

The greatest obstacle in the way of obtaining extensive clinical data from the use of bacterial vaccines is found in the reluctance of general practitioners in reporting their cases and writing papers on their general experiences. Many thousands of competent clinicians use stock vaccines in their daily routine of practice, but being busy men they find that it requires some special effort to write a paper. The laboratory worker, on the other hand, is constantly working out technical problems and naturally is interested in seeing the results of his work in print and placed on record. The result is that our medical literature is well supplied with papers of this character, while the result of the work done by the practical clinician, on the firing line, is not often heard from. This is not as it should be. Clinical experience is the most important factor in determining the therapeutic value of a remedy and no one is in a better position to give this information than the general practitioner. The usual course of most acute infectious diseases is well known. If a new therapeutic agent is employed which materially shortens the course of the disease and at the same time reduces

the mortality rate, the general practitioner is the first to recognize this. Pertussis vaccine was regularly employed in the treatment of whooping cough long before Boards of Health and pediatricists recognized it as an efficient remedy.

The doctor who treats ten or fifteen cases of pneumonia by giving the vaccine early and repeating it at daily intervals until the temperature is brought under control and finds that the course of the disease is shortened by one-half or more, need not be told that the vaccine has given valuable service. But this personal knowledge is of no advantage to the profession unless the same has been published. The same may be said of the treatment of colds. Thousands of doctors use vaccines as a routine in the treatment of colds and in fact depend on vaccines as their therapeutic agent, but comparatively few have published their experiences to the enormous disadvantage of the profession. If the clinical results from the use of vaccines were more extensively reported and published, their true therapeutic value would soon become more generally recognized.

3334 East Jefferson Avenue.

Injection of Cow's Milk in Ocular Infections.—D. S. Garcia Mansilla (*Revista de Medicina y Cirugia Practicas*, December 14, 1919) states that this method of using cow's milk by injection was first used by Müller and Thanner in Vienna in 1916, not only for the treatment of ocular infections but also general infections such as influenza, bronchopneumonia, gonorrhea, and articular rheumatism. The eye infections where the method has been found of value are acute iritis, infected ulcers of the cornea, post-operative infections, purulent ophthalmia, trachoma and eczematous keratitis. The injections are given intravenously, subconjunctivally or intramuscularly; the quantity being about five c. c. and the interval averaging two days.



Thyroid Feeding Action on the Pancreas.—Hirotoshi Hoshimoto writing in *Endocrinology* for January-March, 1920 reports that nine normal male and five normal, non-pregnant female white rats were fed for several weeks on bread and milk. The diastase content of the pancreas varied (Wohlgemuth's method) from 25,000 to 35,000 units in males and 16,700 to 50,000 in females. The average for both sexes was 24,717. Feeding dry thyroid in doses of 0.5 to 0.1 gm. resulted in a marked decrease of the diastatic activity of the pancreas varying from forty to ninety-two per cent. This was accompanied by a diminution of the acidophile granules of the pancreas cells. Large doses of thyroid were more effective than small, but the effects in different animals were variable. The diastase content of the intestinal juice was also decreased in some cases by the thyroid. In such positive cases the appetite was markedly depressed and the feces were soft; in extreme cases they contained considerable quantities of fat. Thyroid feeding frequently resulted also in marked enlargement of the pancreas. In such cases the pancreatic diastase was often decreased even when the amount of food consumed and the intestinal diastase were augmented. The decrease cannot be ascribed to general metabolic perturbation since it frequently antedated any evidence of such; it is rather ascribed to stimulation of diastase discharge from the pancreas.

The Physiology of the Thymus Glands.—Intravenous injections of thymus extracts states an editorial writer in the *Medical Record* (July 24, 1920) produce, according to Oliver and Schaefer, a fall in the blood pressure due to a substance probably closely related to choline. Essays at hyperthymization by injections of thymic extract produced symptoms of intoxication with fever, muscular contractions, and a comatous state. After gastric ingestion of a calf's thymus in dogs, Minkowsky noted in the urine of these animals an organic acid at the time unknown, but closely

similar in composition to uric acid. Parisot obtained a fall in the blood pressure by injecting thymus extracts in normal children; they obtained the same fall by the use of extracts of lymph nodes.

Experiments on hyperthymization have been carried out by Ranzi and Tandler, who injected extract of sheep's thymus into sheep and following this, they noted an arrest in growth of the animal; Charrin and Ostrowski, after treating dogs for three to four months with thymus extract, noted the appearance of bone deformities. One practical point to be noted is that up to the present time no averred symptoms of thymoprivous cachexia has ever been observed in the human subject after thymectomy. This fact can be readily understood when it is recalled that the total excision of the gland is difficult to carry out, and on the other hand a very small bit of thymus may regenerate a neothymus capable of assuming all the endocrine functions of the primary organ.

Action of the Suprarenal Glands.—

Barker, in his excellent article in *Endocrinology* (July-September, 1919), enumerates the various hypotheses concerning the action of the suprarenals as follows: 1. The tonus theory, which assumes that epinephrine maintains in some way constantly a state of tonus in smooth muscle innervated by the sympathetic nervous system. 2. The emergency theory, which regards the suprarenals as an apparatus for discharging epinephrine in emergencies only. 3. The antitoxic theory, according to which the suprarenal neutralizes poisons; or its variations, which assumes that the suprarenal products themselves are detoxicated substances. 4. The metabolic theory, which postulates that the presence of minute quantities of epinephrine are necessary for the metabolic activities of the tissues, including oxygenation of the blood. Results of laboratory experiments have given the following information: 1. The quantity of epinephrine present in the suprarenals, in other chromaffin tissues, in the various organs, and in the blood, under certain conditions; 2. the circumstances (pain, asphyxia, excitement) in which epinephrine is discharged into the suprarenal veins; 3. the influence of epinephrine, a. on the body as a whole after sub-

cutaneous injection; b, on perfused organs like the heart, the spleen and the kidney; c, on strips of muscle like the uterus, the intestine, the iris, the bronchial musculature and the bundle of His; d, on the calibre of, and the blood flow thru, arteries, veins and capillaries in different parts of the body; e, on the function of nerves and neuronal synapses; f, on the content of the blood in its different varieties of white blood corpuscles; g, on the discharge of red blood corpuscles from the different sinuses of the liver; h, on the secretion of saliva and other digestive juices and, i, on the mobilization of sugar and the sugar content of the blood.

The following clinical uses of epinephrine are given: 1. In the treatment of asthma, urticaria, and of angioneurotic edema; 2, the administration of suprarenal gland in Addison's disease, and in other states of asthenia, hypotension and hypothermia; 3. the clinical conceptions of the chromaffinopathies and the interrenopathies and their subdivisions of hyperfunction, hypofunction and dysfunction; 4. the Loewi test and the Goetsch test in clinical diagnosis.

The Therapeutic Use of the Glandular Extracts.—

In a recent paper by Timme (*N. Y. Med. Jour.*, Feb. 7, 1920), the use of the several glandular extracts now available are recommended as follows:

1. In thyroidism with a minus secretion, the hair growth is scanty; in pituitary dysfunction, however, we have hirsute features. Patients of this latter type, for example, instead of having ordinary eyebrows, will have heavy eyebrows that meet over the nose. And hairiness may extend to such skin surfaces as are bare ordinarily.

2. In gonadal disturbances we have odd features. As a result of relative adrenal hypersecretion we find woman in many ways masculine, with hair on the lip and the pubic hair assuming the pyramidal form that is characteristic for man.

3. The teeth often give a clew to the troubling gland. A woman with undeveloped incisors usually has a minus ovarian condition.

A leading symptom of glandular disorder is fatigability. Another is headache of the intratemporal type; it is quite characteristic of pituitary involvement. Disproportion in

the skeletal structure points to endocrine disturbance. Anomalies of the secondary sexual features are likewise illuminating. Certain complaints of vasomotor origin, too, such as flashes and tinglings and paresthesias indicate glandular irregularities; the adrenals are usually at fault in such cases. The white line of Sargent gives additional clinical proof of this. It is produced by stroking the surface of the body with the palmar aspect of the finger. Normally, when this is done, the thorax shows a pink line. If one finds a white line with no pink coloration after such stroking, it is probably due to a lack of adrenal secretion.

In persons prone to hernia and varicosities, or subject to bed-wetting, the adrenals are subject to disturbance, as a rule.

The Thyroid Gland and Its Relation to Basal Metabolism.—In discussing this important subject Wade (*Northwest Medicine*, July, 1920) asserts that in a large number of thyroid lesions there is a definite relation between the pathology of the thyroid gland and basal metabolism. Pathologic conditions of the thyroid, in which the acini are destroyed or in which the epithelium is markedly flattened out, lead to lessened thyroxin production and a decrease in metabolism, while in other conditions, where the parenchymatous structures are increased, there is an over-secretion and an increase in metabolism.

Altered metabolism has been found to occur in many other pathologic conditions, as in leukæmia, anemia, pernicious anemia, typhoid and other fevers, decompensated heart lesions, certain cases of arthritis and no doubt in many other diseases in which this factor has not yet been worked out. It will be interesting to note whether or not the metabolism is altered in the so-called asthenic state.

In hypothyroidism there is an exact relation between the basal metabolic rate and the lack of thyroxin. In myxedema the rate may drop from 30 to 40 per cent. below the normal average, but the rate in this disease fluctuates and does not remain at one constant level. It has been shown that 1 mgm. of thyroxin, given intravenously, raises the basal metabolic rate 3 per cent. This substance has a cumulative action and does not

attain its maximum effect until about ten days after its intravenous administration. Janney found that in cretinism Kendall's thyroxin should be given in average doses of .75 mgms. daily, which corresponds to about four grains of thyroid extract. He believes that large doses of thyroid extract should not be given. In the treatment of hypothyroidism the aim should be to find the minimal dose of thyroxin or thyroid extract necessary to maintain the normal or average metabolic rate, and this can be better regulated by basal metabolism determinations than by the symptoms or signs presented by the patient.

Organotherapy in Skin Disease.—

Pulay (*Therapeutische Halbmonatshefte*, June 1, 1920) concludes from his study of the literature as well as from his own experience that there is no evidence of any direct connection between disturbances in the genital sphere and abnormal conditions in the skin with the exception of certain anomalies in the growth of the hair. He cites also the falling out of the hair sometimes noted with uterine fibromyomas and the rapid growing in of the hair again after these tumors have been removed; also the subsidence of seborrhea during a pregnancy. On the other hand, the mineral metabolism has undoubtedly something to do with skin diseases. Mosse found that ovarian treatment of castrated animals induced pronounced diuresis while the phosphorus content of the urine declined. Matthes found increased elimination of phosphorus and lesser output of calcium and magnesium salts under ovarian treatment; after castration the output of each was increased. These findings suggest that ovarian treatment might modify certain dermatoses by its influence on the calcium and magnesium metabolism. Ischovezco has also apparently established that all organs rich in lipoids, like the endocrine glands, are stimulated to extra functioning when lipoids from the same organ are incorporated. He injected rabbits with lipoids from the uterus and noted that the uterus became hypertrophied. He also noticed an antagonistic action between lipoids from the corpus luteum and from the suprarenals. In conclusion, Pulay refers to pityriasis rosea at the menopause

as an instance of a skin disease in which changes in the genital sphere are certainly an indirect factor, to some extent at least.



Physical Therapy

Prevention and Treatment of Weak-foot in Children.—Roberts (*Journal of the American Medical Association*, July 24, 1920) maintains that if, thru mechanical support and muscle training, the balance of the child's foot is maintained thru the period of growth, there will result a normal foot, architecturally correct, and muscularly strong enough to meet all the demands that may be made on it in the years to come. There are three factors commonly at work to disturb the fulfilment of Nature's plan for the formation of the foot, namely, improperly designed shoes, unequally developed leg muscles and a deviation in the normal mechanical relations between the tarsus and the leg. Perhaps the most important single factor in the development of a normal arch is the maintenance of the upright position of the os calcis during the period of growth. In some cases it is necessary only to raise the inner border of the heel of the shoe to insure this result. In others, some firm, mechanical appliance capable of grasping the heel will be indicated. It is the custom of the day, when a child has weakfoot, to put in the shoe a plate which presses up the arch. In the light of the writer's experience this would seem to be both physiologically and mechanically wrong. The desired correction can be much more readily obtained by an apparatus whose effective force is applied directly to the heel, and the permanence of the results will be much more certain. Much can be done toward maintaining the proper alignment of the bones of the foot by muscle training; but the use of this measure must of course be deferred until such time as the child is old enough to cooperate intelligently; therefore, the question of shoes takes second place in any reasonable scheme of prophylactic supervision of foot growth. Children's footwear should be selected with an intelligent understanding of the needs

of the growing foot. The popular idea that the anterior part of the shoe should swing inward—a design so often seen in so-called "orthopedic" lasts—is based on an entirely erroneous conception of the normal foot. About two thousand tracings of normal feet were collected by the American Posture League from various parts of this country, Japan and India, among which were many outlines of feet that had never worn shoes. Careful examination of these by means of a geometric scale revealed the fact that there exist three distinct types of feet, not merely one, as formerly supposed. These may be designated as the "straight," the "inflared" and the "outflared" foot. Unfortunately, there is no record of a similar study of children's feet and until scientific data are available one must be content to treat the child's foot on more general principles when it comes to the selection of shoes, bearing in mind that compression of either the outer or the inner borders of the feet is to be avoided. The writer describes a plate which he has devised for the comfortable maintenance of the upright position of the os calcis, or its rotation outward if there is an inclination to pronation.

Some of the Present Day Uses of Radium in Medicine.—Kelly (*The Journal of the Medical Society of New Jersey*, May, 1920), who is able to speak with authority, claims that the most remarkable results are obtained in lymphosarcoma. All cases should be treated with radium, never operated upon. Hodgkin's disease is also curable when taken early. A certain number of cases of leukemia have been reported cured and well after a number of years. The successful results are directly proportionate to the early recognition of the disease and its prompt treatment with radium. Epitheliomata of the hands and face, when not too far advanced, are relieved in 95 to 98 per cent. of the cases. In cancer of the lip, radium will often wipe out the local lesion, but the enlarged glands of the neck should be taken care of surgically. Where the extent of the disease is uncertain as in cancer of the breast, surgery is preferred, because of the impracticability of radiating a large area, but radium is preferable treatment. In older women menstruation is

stopped in this way, the tumors cease growing, shrink or disappear entirely. In cancer of the cervix, radium is the treatment *par excellence*, and is always preferable to surgery. In the cases in which the disease has invaded one or both broad ligaments, and in the massive cases, there is no other rational treatment. In recurrences after operation it is also of service. Cancer of the body of the uterus is best treated surgically. Primary cancer of the vagina melts rapidly under radium.

Radium Treatment of Chronic Leucorrhea.—In a series of forty-six cases reported by Curtis (*Jour. A. M. A.*, June 19, 1920), the patients were subjected to a thoro pelvic examination, the reaction of the discharge tested, smears obtained from the cervix and vagina, and a set of cultures made. Gross pathologic lesions were corrected surgically. The usual hygienic measures were instituted. The most usual and most difficult focus to eradicate lies in the endocervix. Unless the discharge is essentially of vulvovaginal origin, radium is advocated in all severe cases of persistent chronic leucorrhea. After thoro dilatation the cervix and fundus may be curetted for diagnostic purposes. Fifty mg. of radium, preferably two 25 mg. tubes in tandem, are introduced high into the cervix, held by a suture passed thru the external os, and left for several hours. One or more subsequent radium treatments of shorter duration may be required. It is best to plan on an interval of from ten to twelve weeks between applications. Each radium tube employed in the treatment of this series of cases was screened by a double gold capsule with a total thickness of 2 mm. The capsule in turn was incased in dental rubber. Examination of cervical tissues after successful radium treatment reveals atrophy of the glands, relative increase in fibrous tissue and disappearance of microscopic evidences of infection. Skene's ducts harbor the next most important focus. At the time of radium application, or under procain anesthesia, the blunt end of a needle, held in forceps, is threaded into the duct so that the needle head protrudes into the vagina. The duct is split with a knife and the tract fulgurated. Bartholin duct infection may

be eradicated by similar treatment. Infected Bartholin glands rarely require excision. The urethra is occasionally treated by dilatation, aided by instillations of weak silver nitrate solution. Twenty-five patients were cured; 7 were improved; 4 were not improved; in 10 cases no report can be made as yet.



Vacations.—More and more the medical men of the country have come to realize the importance of an annual vacation. The following bit of advice from Dr. George F. Butler (*Amer. Jour. of Clin. Med.*, July, 1920) cannot fail to impress every busy doctor:

"Take a vacation! When I think of all the good times there are in this world and which you and I might be in if only we had the good sense to avail ourselves of our opportunities, I am inclined to think that we are not to be commiserated so much, after all, if we fail to have our good time oftener. Don't think that you haven't time to take a short vacation. You have. Don't wait for the opportunity to present itself. Take the opportunity. If one sat on shore and waited for some trig little boat from off the sea to sail up to the strand, draw one into it by some method of affinity unknown to science and carry one off to Spain, don't you think one would grow gray-headed and wan before the voyage commenced? It is just as silly and just as hopeless to wait for some full-rigged opportunity to draw near and force you on board. Without some effort on your part, you never will set sail. You never will go anywhere if you do not arise and go. Leave your work for a while; leave things undone if need be. Bother the duties! Shoo the obligations! Just you get up and go! That's all."

Again the Bonus.—The medical profession as a whole will stand squarely behind the action of Caduceus Post, No. 818.

of the American Legion in voicing disapproval of the soldier bonus. This post is composed entirely of men from the Medical Department of the Army. More than passing significance must be attributed to the action of such a post since it properly represents the medical profession in the Legion. The officers of the Post include Dr. Howard Fox, president, Dr. Harlow Brooks, Dr. George E. Maurer, Dr. G. M. Hammond, Dr. Samuel Bradbury and Dr. William F. Cunningham.

"Those who served in the war performed only their patriotic duty for which there can be no material remuneration," declares a statement recently issued.

"It is maintained that the first and foremost obligation of the Government and of all ex-service persons is to demand that proper care shall be given to those who were disabled in the service, as well as to the dependents of those who made the supreme sacrifice—this care to consist, for the former, of the best medical and surgical attention possible, with sufficient disability allowance to permit them to continue their mode of living at the present time without any handicap, and, for the latter, the adjustment of any monetary deficiency which may have resulted from the loss of their loved ones."

In thus declaring their position these physicians have stood squarely on the true patriotism of the American medical profession.

Offensive Medical Publicity.—There is some virtue in a newspaper report from Pittsburg describing an operation "rare in 'medical' surgery," inasmuch as the name of the surgeon at least is omitted, so that the story cannot be characterized as personal publicity. It tells of the grafting of a piece of bone from a man's leg to the base of his spine which from birth had been three inches too short. The operation is certainly not a medico-surgical rarity to the profession, and no good purpose can be served by describing it in the public prints.

The commonplaces of surgery sound remarkable to the uninitiated layman. It is a tempting opportunity to the publicity-seeking surgeon or institution to impress reporters with the rare skill and daring necessary to the performance of many of these

commonplaces and thereby secure space in the newspapers.

It is interesting as well as gratifying to note that the names of leading surgeons with a highly developed sense of the ethics of the profession are almost never associated with such pseudo-scientific accounts. If a real discovery or achievement is made by a surgeon who takes pride in his professional standing, he never has to seek newspaper aid to have it become known. A report to recognized medical organizations or to medical journals of standing will always assure him an adequate hearing by his colleagues. If his discovery is worth while he may be sure that it will not be passed by, but will receive all due and deserved publicity and without stultifying himself or prejudicing in any way his professional standing.

Success.

It's doing your job the best you can
And being just to your fellow-man;
It's making money, but holding friends.
And staying true to your aims and ends;
It's figuring how and learning why.
And looking forward and thinking high.
And dreaming a little and doing much;
It's keeping always in closest touch
With what is finest in word and deed;
It's being thoro, yet making speed;
It's daring blithely the field of chance
While making labor a brave romance;
It's going onward despite defeat
And fighting staunchly, but keeping sweet;
It's being clean and it's playing fair;
It's laughing lightly at Dame Despair;
It's looking up at the stars above,
And drinking deeply of life and love;
It's struggling on with the will to win,
But taking loss with a cheerful grin;
It's sharing sorrow, and work, and mirth,
And making better this good old earth;
It's serving, striving thru strain and stress,
It's doing your noblest—that's Success.
—*"The Rambler."*

European Epidemics A Menace to the American People.—The eyes of the health authorities of the world are turned on Arabia where the Moslem pilgrimages to Mecca

and Medina are in progress. It would seem that Arabia is rather remote to create any real danger of epidemic in the United States, but the fact is otherwise, according to the warnings of some of our most conservative health officials.

As a result of the war and the changed status of so many peoples in the far East, we are receiving immigrants from new countries, including many of the Moslem race. Not only the immigrants themselves but the ships which bring them are sources of real danger. Many of these ships are infested with rats, the most notorious of all carriers of the virulent types of disease-producing organisms.

According to the statement of David E. Lantz, assistant biologist of the Bureau of Biological Survey of the Department of Agriculture, "the rats, thru the flees which invest them, are almost wholly responsible for the perpetuation and transmission of bubonic plague, and it has been proved also that the rats are active, if not exclusive agents in spreading pneumonic plague."

Mr. Lantz's statements are made in a recent report to the Department of Agriculture urging the same care in the construction of farm buildings to combat the rat menace as is required in the construction of city buildings.

"Only the prompt measures taken by the United States Public Health Service against these animals prevented disastrous epidemics of plague in San Francisco, Seattle and Hawaii in 1909, in Porto Rico in 1912 and in New Orleans in 1914."

Health Commissioner Copeland of New York City, while still in Europe, sent over a warning against the dangers from "pilgrim" diseases likely to be spread by these summer pilgrims in the far East. He repeated his warning when he returned, laying special emphasis on the danger from rat infested ships.

Dr. Frank J. Monaghan, Acting Health Commissioner in Dr. Copeland's absence, immediately instituted a campaign for the rigid enforcement of plague protective requirements and the port of New York was watched with the greatest care.

Dr. John Kerr, of Ellis Island Hospital, who has spent most of his life in medical research for the United States Army seconded Dr. Copeland's warning as to the far-reaching danger from the pilgrimages.

"Our principal danger is in getting these diseases after they have become epidemic in European countries," he said recently "It will be remembered that an epidemic of cholera broke out in Italy in 1913 and it was brought here by immigrant aliens. It got passed quarantine, too, and developed, I think, in Mt. Vernon, N. Y. Everybody will remember the anxiety caused by the incident.

"In a somewhat similar manner, I recall, the first case of bubonic plague struck this country at San Francisco. I was there at the time in the Army Medical Service. The country was paralyzed with fear. Ports were closed, cities and towns quarantined against one another and business was at a standstill. Since that time, however, great advances have been made in methods for heading off such visitations." It is evident that the utmost care must be employed to protect this country against the diseases raging in Europe. Happily we have officials who are not only alive to the danger that threatens, but who are competent to cope with any emergency that may arise.

Fingerprinting the Babies.—As the result of the recent burial of a woman as unidentified while her relatives were seeking her thru police assistance, an interesting proposal has been made for the identification of all persons. It is suggested that doctors filing birth certificates be required also to file fingerprints of the new born baby. Both Deputy Police Commissioner Joseph A. Faurel, the police fingerprint expert and Acting Captain John H. Ayres, head of the Bureau of Missing Persons in New York, are sponsors for the suggestion.

Changes in the Sanitary Code will be required, and before any effort to accomplish the change has been made the police officials have announced they would call physicians into conference to get their expert opinion. We cannot commend these officials too highly for this broad and liberal attitude.

It is a fairly well established fact that no two persons have fingerprints that are identical. In other words the fingerprints are an almost absolute identification of an individual. The fingerprints of a baby differ only in size from those of the adult. Here, then, is a means of identification for

all persons, which with a very little corroborative evidence can be made infallible. In view of the large number of missing persons and kidnapped children, it would seem most unwise for the authorities not to make full use of this remarkable yet surprisingly simple means Nature has provided of differentiating between individuals.

Some persons, no doubt, will raise objection because fingerprints have been so long associated with the identification of criminals. There can be no sound reason in such an objection, however, if the law makes its use a matter of general application.

The opinion of physicians on the subject will be awaited with interest, but unless we greatly misunderstand the medical profession, medical men will heartily endorse the plan and give their faithful cooperation to any practical means of putting it into effect.



Sing Sing Reformed—Hospitalizing Drug Addicts.

To the Editor

AMERICAN MEDICINE:

Your two editorials on these subjects in the July issue of AMERICAN MEDICINE are very valuable additions to what has been written on the subject. You show conclusively and in a very clear way what great and enduring reforms are being planned for Sing Sing prison. The prisoners are to be examined carefully and in the most expert manner to discover upon what their criminal acts depended, whether due to mental deficiency, inherited evil traits, or mere environment, poor surroundings and little or no education or moral training. But you do not point out, after these examinations have been made and the prisoners have been assigned to what is apparently the work best suited to them, what expert and excellent supervision they are to have, nor what kind of tools they will usually have to work with. Both should be the best, so as to secure the best outcome individually and collectively, not only for the time the prisoner is detained in prison, but also later when he goes into the world and wishes to re-establish himself and make an honest living, if possible. Mr. Adolph Lewisohn has shown, in my judgment, in this

connection how all-important it is for prisoners to be properly compensated for their work in prison. A portion of their wages should be used to pay for their keep in prison. What is over and above this outlay should be used by the civil authorities to help support their dependents and prevent their becoming a public charge, or, if there are no dependents, to be given to the prisoner when his sentence is finished and he goes into the world, in order to make it far less difficult for him to secure employment of the sort that he desires and is fitted for. During the period of his searching, the wolf would be kept from the door and he would be less tempted again to commit crime, simply because he would possess the wherewithal to sustain life while compelled to bide his time and wait for work—as it is, and with the few dollars the state now allows to the ex-convict who has finished his term, the chances are against him immensely and he again becomes a criminal thru destitution and lack of remunerated employment.

The question of what should best be done with drug addicts after hospitalization is also most important and in a measure analogous. We may have broken up their pernicious habits thru hospital care and by absolute prevention from securing the narcotic drug which has been the cause of their downfall, but how prevent recurrence to the evil habit when no longer they, the addicts, have hospital supervision and treatment? This is yet an unsolved problem and in many instances the released individual will sooner or later again become an addict. In order to prevent it, his family or friends must see to it that he is properly occupied, that he is toned up in every way, mentally, morally, physically, and in this way secures the strength and purpose not to give way to temptation and finally secures for himself, indeed, a permanent cure.

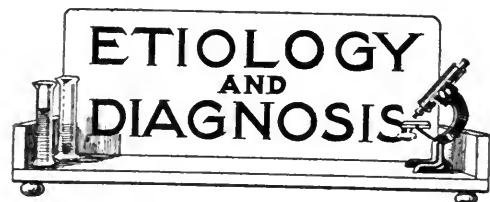
With the earnest hope that this brief supplementary addition to your two admirable editorials may be really useful and maybe widely so, I am,

Yours most sincerely,

BEVERLY ROBINSON, M. D.

Westport, Essex Co.,

New York, Aug. 13, 1920.



Diagnosis of Cholecystitis and Indications for Cholecystectomy.—Garrow, according to the *New York Medical Journal* (Aug. 14, 1920), said a patient might have a history of cholecystitis and yet the gallbladder show little evidence of disease either to the eye or by palpation. Often such a gallbladder when opened may

show a typical strawberry mucous membrane. Frequently the peritoneum in the region of the colon may show hyperemia, and there may be enlargement of the lymph glands in the vicinity of the gallbladder. In fact it might be said that contiguous disease often offered a better criterion for the removal of the gallbladder than the appearance of the organ itself. The evidence seemed to show that inflammation of the gallbladder was infective in origin. We had been taught that infection probably occurred thru the bile or from the duodenum by way of the common duct. Drainage of the gallbladder had seemingly benefited a number of patients, but he doubted whether the good results were due to drainage *per se*; probably they were due to rest and the withdrawal of a small amount of bile. Appendicitis, ulcer of the stomach and duodenum, and cholecystitis were largely of embolic origin. Rosenow had shown the selective affinity of the streptococcus for this region, and the bile might be sterile tho the wall of the gallbladder was infected. He agreed with those who held that cholecystectomy was the operation of choice, even tho there was little pathology limited to the gallbladder itself. When there was a clinical history of recurrent attacks or of a chronic type of inflammation, it was safe to assume the presence of an infective process which became active when the resistance of the body was lowered. Doctor Garrow described various types of cholecystitis and spoke of the difficulty in some instances of differentiating it from duodenal ulcer.

In differentiating perforated duodenal ulcer from acute cholecystitis it might be well to remember that retraction of the abdomen was never seen except in duodenal ulcer. Fever in acute cholecystitis varied with the acuteness of the infection; chills were unusual, being rather more frequent in common duct infection; routine examination of the blood showed a leucocytosis; frequent vomiting was not usual. The indication for the treatment of an acute attack of cholecystitis was drainage, provided bile was found; as long as the bile drained away one might look for recovery, but in many of these cases treated by drainage there were sequelæ and hence many surgeons preferred cholecystectomy. The gallbladder was not essential to life, tho it might be a factor in the well being of the individual. The symptoms of chronic cholecystitis were a distressing sensation in the epigastrium, pain beneath the right scapula and over the eighth, ninth and tenth ribs, a bad taste in the mouth in the morning, and loss of appetite; some individuals were thin and others obese. Inspection of the abdomen was negative, but usually there was marked pain on deep pressure in the gallbladder region. Examination of a test breakfast showed about normal acidity. The gastric symptoms had no direct relation to meals and usually occurred late at night. These patients were often quite comfortable for weeks between attacks. In the ordinary chronic forms of cholecystitis the gallbladder was thickened, milky white in color, and tenderness and rigid-

ity were present; occasionally there was a tumor when the cystic duct was obstructed. Doctor Garrow reported a series of eighty patients operated on for gallbladder disease during the past two years; of these sixty were women. The average age was forty-four and a half years. In forty-five the chief symptom was sour stomach; fifty vomited; twenty-seven were jaundiced; only eleven showed definite rigidity; forty had stones in the gallbladder. A reliable follow-up was conducted which showed that one had recurrence of symptoms.

Gland Extracts for Differential Diagnosis.—R. Porak (*Annales de Medecine*, Jan., 1920) has been studying for some years the response to thyroid, pituitary and other gland extracts in health and in disease. The difference in the reaction is often so marked as to aid in differential diagnosis. Suprarenal extract and thyroid extract in the healthy display an immediate pressure reducing and pulse slowing action, but with myxedema nothing of the kind occurs, or it is very slight, or the effect may be the reverse, the pulse becoming accelerated. In one girl of 10 with a white swelling of the knee and tendency to obesity, no effect was apparent from test administration of thyroid extract. This confirmed the suspicion of myxedema, and under regular and continuous thyroid treatment improvement was soon observed; in ten days the weight dropped from 34.3 kg. to 30. Pituitary extract accelerates the pulse in myxedema and slows it in the normal, while it causes the pulse to grow slower from the oculocardiac reflex in myxedema. The test is made with intramuscular injection of 0.5 to 2 c. c. of thyroid extract or pituitary extract. In seven tests with suprarenal extract the blood pressure was not raised as high or as long in myxedema as in the healthy except when the myxedematous were taking thyroid treatment, in which case the response was about the same as in the healthy.



Treatment of Gastric Ulcer.—Lawson, in a recent issue of the *Indianapolis Medical Journal*, gives the following method which he considers the best for gastric ulcer: The patient is kept in bed for three weeks. Nothing is allowed by mouth for three days, fluid being furnished by the Murphy drip method. One-half quart (1,500 c. c.) is given in twenty-four hours, thirty drops a minute. This relieves the distressing thirst so often present in this dis-

ease. The addition of forty-five grains of strontium bromide to the drip helps to keep the patient quiet and comfortable. Feeding is begun on the fourth day, consisting of two ounces of fully peptonized milk every hour or two from 7 a. m. to 7 p. m. Half way between the feedings a powder, consisting of ten grains of bismuth and twenty grains of bicarbonate of sodium, is used. If the bowels are not constipated, and if pain and acidity have been permanent symptoms, we may rely on the following prescription:

Extracti hyoscyami,

Argentl nitratisaa gr. ss.

Misce et fiat pilula, No. 1.

Mitte No. xxiv.

Sig.: One pill three times a day.

Each day the milk is increased one ounce until four ounces are taken every hour, or eight ounces every two hours, depending on the need of the individual patient, *i. e.*, some do best on hourly feedings. After eight days of feeding a tablespoonful of well-cooked farina is allowed, at first twice a day with the milk feedings which are kept up continuously. On the tenth day farina and cream of wheat are allowed with three of the milk feedings. On the twelfth day the cereal is increased to two tablespoonfuls, and a small sprinkling of powdered sugar is allowed. On the fifteenth day four soft feedings are allowed, evenly spread thruout the day, milk toast being used once. On the seventeenth day a soft boiled egg or custard is allowed. In the fourth week the patient is allowed to be up, but can do no real work for a period of seven or eight weeks. His diet consists of two soft boiled eggs, cream soups, vegetable purées and soft foods, such as jellies, custards and creams, may be added. Farina, cream of wheat and rice cooked to a pulp are best. The bismuth is continued for six to eight weeks and for a year or more only soft, unirritating foods should be taken.

Quinsy.—Forsyth (*British Med. Jour.*, Mar. 13, 1920) describes his experience with antistreptococcal serum in cases of quinsy. He gives the history of ten cases. The method of treatment was brought to his notice as a result of a report on a case of quinsy. The report on a swab from the throat was: *Diphtheria bacilli* not present, abundant growth of streptococci. The ordinary treatment of quinsy was unavailing. The following routine was adopted:

Serum (10 c. c.) was injected at once. Antidiphtheritic serum (2,000 units) was added if there was any doubt of diphtheria. The injection was made in the thigh hypodermically. The usual initial purge was given and thymol, carbolic lotion and hydrogen peroxide were used for washing out and swabbing the mouth and throat. In all the cases the author treated, pain was appreciably relieved in from 6 to 12 hours. Incision of the abscess owing to the severity of the symptoms was not required, as in the majority of the cases pus was discharging from the abscess on the fourth day. The tem-

perature approximated to the normal one or two days after the injection of the serum.

Sugar and Hexamethylenamin in Jaundice.—Well (*Bulletin Medical*, Apr. 27, 1920) suggests the use systematically each day by the drop method, by the rectum, 1.5 gm. of hexamethylenamin in a solution of sugar, 45 gm. to 1 liter of boiled water, in all kinds of acute infections except dysentery. He applies it as a daily routine measure from the start. All that we know, he says, of liver physiology supports this treatment theoretically, and experience is confirming it in practice. Sometimes he adds a little epinephrine. This treatment is more active than infusion by the vein or subcutaneously of the sugar solution. It stimulates the liver and kidneys and induces intense diuresis, while the sugar promotes production of glycogen and elimination of nitrogenous waste, and starts a more profuse flow of bile. He uses sugar instead of glucose, as more readily available, and is not certain whether the hexamethylenamin might not be dispensed with. This treatment may transform conditions with jaundice from gallstones so that operative measures may become unnecessary. It fails of course when the jaundice is the result of cirrhosis or neoplasms.

Treatment of Dislocation of the Shoulder Joint.—Todd (*Practitioner*, Mar., 1920) asserts that the present after-treatment of dislocations of the shoulder by fixation of the arm to the side is irrational, unscientific and unsuccessful, resulting in limitation of abduction and osteoarthritis. In rectangular abduction the rent in the capsule is closely coaptated, whereas in adduction the capsule is crowded together in a crinkly lump and coheres in that position, thus limiting abduction and causing pain. The arm is no more likely to redislocate when placed in rectangular abduction than when it is tied to the side. If abduction is adopted, the resulting movements are much better; they are obtained much more quickly and less painfully.

Yeast in the Treatment of Arthritis Deformans.—Spencer (*Therapeutic Gazette*) concludes his article as follows:

1. There may be more than one focus of infection, so that careful study should be made of each case before conclusions are drawn and promises made.

2. Definite improvement has followed the administration of yeast in all of the cases of arthritis deformans studied, and remarkable benefits resulted in one case.

3. Yeast therapy in arthritis deformans deserves further trial. The results in cases so treated should be reported so that accurate determination of its possible value in this trying disease may be determined.

NEWS NOTES AND ANNOUNCEMENTS

Roentgen-Ray Injuries.—The cable reports that the radiologist, Dr. C. Infroit, of Paris, had to have his remaining arm amputated on account of Roentgen-ray injuries. This is the twenty-fourth operation he has had to undergo since 1898. This would seem to be the record.

Palestine's First Medical Journal.—Palestine's first medical journal, *Harefoah* (Medicine), has just made its appearance, published by the Jewish Medical Association of Palestine. The journal is a quarterly and its first issue is dedicated to the memory of the Jewish physicians and nurses, who "laid down their lives in the years of upheaval in the Holy Land."

The objects of the medical association, as outlined in the quarterly, are to strengthen and coordinate the medical forces of the country and to collaborate with doctors outside of Palestine; to give the medical work a national as well as a humane value; to prepare a native soil for Jewish scientists; and to help in the creation of the Hebrew University.

Medical work in Palestine has advanced rapidly during the past two years, stimulated by the American physicians and nurses with the American Zionist Medical Unit, who have taught the native members of the profession all the latest ideas in medical work, and sanitation. Clinics are held by the American doctors, to demonstrate to the Palestinian doctors the most modern methods, and lectures are given at regular intervals.

The hospitals and clinics established by the American Zionist Medical Unit in Palestine are planned as the beginnings of the Medical College of the Hebrew University at Jerusalem, which Professor Patrick Geddes, noted town planner of the University of Edinburgh, is designing.

Heroine of Many Battles Gets Wooden Leg.—Mary Petrovitch, a young Serbian woman who served thru nearly all the war and lost a leg in the service, has just been fitted out with an artificial limb by the American Red Cross at Belgrade.

Miss Petrovitch, who is twenty-seven years old, joined the Serbian Army in its great retreat in 1915, in order to nurse her wounded fiancé. When he died she took his place in the ranks and fought with the men. She served later on the Salonika front, where she was promoted to the grade of sergeant-major.

At one time under shell fire, she was in absolute command of her company, all other officers having been killed or wounded. She was wounded in the battle of Kursumlia, and taken prisoner by the Bulgars. A Bulgarian surgeon amputated her leg and soon after she was released and sent back to Belgrade.

The cripple heroine was placed in an old barrack hospital with other invalid soldiers. Upon learning her identity the doctors wanted to remove her to more comfortable quarters. But she refused, saying that she desired to remain "a soldier" to the end of her service. At the artificial limb factory, established here by the American Red Cross, she insisted that her new leg be no better than that given to other soldier-cripples. In a few weeks she expected to take an active part in the reconstruction of her country—going back to farm work.

Of Course.—There is a certain dear old lady who owns a little farm and takes a few boarders in summer.

Recently an anxious young mother, who has been industriously delving into medical literature of late, inquired of the old lady whether or not the milk served at her table was pasteurized.

"Of course!" was the old lady's indignant reply. "Don't we keep all the cows we've got in the pasture all summer long."—*Chicago Herald*.

Six American Nurses Win World's Highest Nursing Honor.—Six American Women, all of whom saw service in the World War, have just been awarded the Florence Nightingale Medal, the highest decoration of the whole nursing world. The distinction, which is bestowed by the International Committee of the Red Cross, Geneva, may be awarded only one nurse of any nation annually; thus these six women represent America's nursing roll of honor since the outbreak of war in 1914. The terms under which the decoration was created in 1912 also provide that it be granted "only to trained nurses who may have especially distinguished themselves by great and exceptional devotion to the sick and wounded in peace or war."

These nurses, all of whom served with the American Red Cross, are Miss Helen Scott Hay, of Washington, D. C.; Miss Florence Merriam Johnson, of New York City; Miss Martha M. Russell, of Boulder, Colo.; Miss Linda K. Meirs, of Boston; Miss Alma E. Foerster, of Chicago, and Miss Mary E. Gladwin, of New York City.

Just Keep On Keepin' On.

If the day looks kinder gloomy
An' your chances kinder slim,
If the situation's puzzlin'
An' the prospect's awful grim,
An' perplexities keep pressin'
Till all hope is nearly gone,
Jus' bristle up an' grit your teeth,
An' keep on keepin' on.

—Et

American Medicine

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In Advance

Words and Ideas.—To thinkers words are ideas; to others words are words. The unthinking reader glances over the paragraph and possibly secures an impress that registers upon his consciousness a favorable or unfavorable reaction. With thoughtful reading, he grasps the significance of the author's concept, evaluates it, accepts it or rejects it, and occasionally absorbs it positively or negatively into his being, so that it may function in his future motivation.

In the building of the verbal structure of a paragraph the author may be supposed to be selective in his phraseology. Each word possesses an essential meaning of its own which it lends to creating a word picture, but without sacrificing its own individuality. Pioneers in thinking, lacking adequate words to express their ideas, do not hesitate to coin verbal symbols of their ideas that are readily recognized and understood by their readers. Thus language has grown, so as to include the symbols of thought of those working in fields of human endeavor beyond the experience of most persons. At the present time, medicine is being enriched by a highly technical vocabulary—accurate, definite, and rich in meaning. Many commonplace terms, whose earlier connotations were found in non-medical matters, are taking on a peculiar significance in their adaptation to medical thought. This is most marked in connection with the social phases of public health and preventive medicine.

A single article dealing with the problems of pensions is illustrative of the wealth of ideas included in words familiar to most persons aware of the problems of humanity that are age old. Considered in the light of the catastrophic character of modern warfare, there is a rich significance in the terms—flotsam and jetsam, deprivation and dependence, human remnant, sympathy, conscience, *summum bonum*, universal brotherhood, responsibility, voluntary agency, systematic provision. These words, disconnected as they appear to be, nevertheless merge in continuity of meaning so as to permit a normal flow of ideas leading to a conscious appreciation of their massed significance, despite the fact that they are not bound together by sentence structure. The word ideas sound forth a challenge.

Such a single illustration of word choice is indicative of some of the poetry of prose. It excites the imagination, and, figuratively, paints pictures ever changing in color and form, without a lack of harmony, or a mar-
ring of their beauty. A minister, with these few words as notes, could give a powerful, inspiring, and compelling sermon. A lawyer could expound the law, and express convincing arguments concerning the rights of man. An economist or a sociologist could dilate upon them, and direct the thoughts of his hearers to the multitude of problems in which justice, honesty, decency, and ethics are involved.

In almost every phase of human effort the "music of humanity" will have its echoing thought. Nor, indeed, is the physician, by reason of his calling, callous to a medical interpretation of these words and phrases. In fact, these few expressions represent a considerable part of the nourishment of the seed sprouting forth and flowering as public health. Not words, but ideas, are the well-springs of human action.

Rat Proofing.—The appearance of the bubonic plague in one or two places in the south and west of the United States, directs attention to the importance of anti-rat campaigns. This subject is receiving careful consideration by the United States Public Health Service, but it is readily understandable that full measures of protection become possible only thru the cooperation of the state authorities, and, more particularly, thru the lay public.

Assuming it to be true that there are as many rats in the United States as there are persons, it is apparent that the rat population is fairly well distributed and their depredations are exceedingly costly. Our concern, however, is more upon the side of the hazard to health than the mere financial losses incident to their methods of living.

The three rats most common in America are, the brown rats, the black rats, the roof rats, of which, the first named is of paramount importance. The brown rat is a burrower, while the black rat ordinarily lives in hollow walls and loose material, and is wont to frequent the upper stories and roofs of places so as to get away from his natural enemy, the brown rat.

The ordinary fight against the rat by poisoning processes is by no means as effective as the proper construction of gran-

aries, markets, stores, and similar places* so as to keep a barrier between the enemy and its food supply. For the most part, under normal conditions rats prefer a vegetable diet, and are not prone to seek great variety. Their sensitiveness to odors and substances makes it difficult to poison them easily or on a large scale. Barium carbonate is probably the most successful rat poison, and is not dangerous to human beings in the quantities that are involved for destroying rodents. Trapping is not likely to succeed unless the rat trap is the only available food.

Under the circumstances, therefore, rat proofing becomes of maximum importance. Every possible point of approach must be occluded. In order to do this successfully, attention must be paid to the habits of the animals so that concrete, stone, and brick may be properly placed and fitted so as to preclude the possibility of any entrance place for the rodents. Their ability to gnaw indicates the reason for concrete floors and foundation walls, particularly in places where foods are stored or handled. It is unnecessary to describe all the details essential to the process. It is sufficient to emphasize the need for greater familiarity with the habits and customs of these pests whose particular hazard results from their relation to the dissemination of bubonic plague. Allowing 180 millions of dollars a year as representing the annual cost of rats to the people of the United States, one can readily recognize the economy of large appropriations for rat proofing. It is far easier to safeguard our communities against a rat infestation in the absence of an epidemic, than it would be once the plague has gained a foothold. Now is the time, therefore, for the State Department of Health to enlist the cooperation of all good citizens in their efforts to protect the community.

The experiences of California and Florida are merely isolated instances of an impending danger, which may readily be controlled by prompt and immediate anti-rat sanitation. The necessity for care in seaport towns is increased by reason of the transportability of rats on the great ships that come to our shores from all parts of the world, including those suffering from bubonic plague. The fumigation of ships, and the trapping of rats do not suffice as a full measure of protection to seaport towns, as it is always possible for a few infected rodents to make their escape unobserved during the night. Vigilance by health authorities in the examination of trapped animals is of the utmost importance, but will not guarantee a community against rat-borne diseases. The discovery of an infected rat is merely a danger signal that should stimulate greater efforts toward efficient rat proofing.

The danger from the ground squirrel has been urged but it is far less serious than the rat problem. The rodents are more numerous and more predatory as well as more active in the efforts to interfere with human comfort and well being. Anti-fly and anti-mosquito campaigns have been inexpensive, but their success has brought great wealth in money and lives. Rat proofing may be costly, but the safeguarding of the nation is sufficient reason for the protective expenditure.

State Aid to Rural Medicine.—In the organization of health education and preventive medicine for rural sections, numerous obstacles arise. The emphasis, however, being placed upon the public health clinic indicates that there is a realization of the importance of offering expert diagnostic

service, and also of seeking to advertise health in such a manner that it may function to prevent illness.

The necessity of services of this character is not fully realized by urban dwellers. In the *New York State News*, July, 1920, one finds the following statements which could be duplicated in kind for almost every state in the union. "Large sections of the State lack not only dispensary and clinic service but in many cases they are without physicians. Of the fifty-seven counties of the State, exclusive of Greater New York, twenty-one have no clinic or dispensary service of any sort, nine others have each but one clinic, and that for a single specialty." It is patent, that to meet such shortcomings, community health activities must be merged in such a manner that laboratories, nurses, and social service workers may serve a large rural area at the minimum cost in time, effort and money. This may require the establishment of such centers at a central point equidistant from county seats, so that by a cooperative effort the respective publics may receive the benefits of the necessary agencies that exist for the prevention of disease as well as for diagnosis and treatment.

A group diagnostic consultant service, supplied by the state and travelling constantly thruout the rural sections to confer with local physicians relative to diagnostic problems, possesses unusual value. Such a standardized, mobile service should be welcomed by rural physicians, not merely because of its diagnostic aid, but because of its assistance in improving the standard of rural practice, and in emphasizing the variety of service performed by rural physicians.

In various sections one finds scattered, independent dispensary units dealing with

tuberculosis, venereal diseases, child-welfare, mental hygiene and dental care. These separate types of clinics are not always available for the same groups of the population, and to a great extent they function with a degree of separateness, which contravenes unity in action. From the standpoint of the public, the consolidation of clinics, now separated, is essential, in order that real community methods in the medical practice may be developed. Already, the general worth of group consultants of itinerant character has been demonstrated—not merely in New York State, but in various other parts of the United States. There is every reason to believe than an extension of medical facilities of this character as indicated, and an expansion of this service would be markedly advantageous to rural health.

“For the strength of the pack is the wolf, and the strength of the wolf is the pack.” In these few words, Kipling has summarized the idea which underlies the conception of public health now spreading rapidly throughout the world. The strength of the nation lies in its people, and the strength of the people lies in the nation. To attempt to raise the standards of state or national health, without recognizing the importance of reaching the maximum number of individuals, is a short-sighted and inadequate policy. In large urban areas, or in congested cities there is already sufficient interest of population, and local pride to institute health reforms. Communities are more willing than ever to submit to taxation for public health projects. The evidences of health improvement are now sufficiently tangible to serve as a stimulus to more progressive action in the development of agencies for serving the welfare of the infant, child and adult population. In

sparsely populated areas, however, while the need is recognized, means are secured with more difficulty from the more limited resources of the smaller group.

Recognizing the fact that the state is interested in securing equal opportunities for all of its citizens, it becomes of paramount importance that the resources of the state as a whole, be brought to bear upon problems in the most isolated communities. Hence, state action in the introduction of health centers, group consultant service, and special clinics, when indicated, is of consummate importance. Mobilizing state agencies in the interests of the entire population of the state would seem to require little agitation. There has been a growing development of this type of service which has been appreciated and welcomed by the rural public, including the medical profession. There has been no cry of paternalism, no fear of interference with local practice.

As a matter of fact, the growth of preventive medicine, while lessening the amount of acute illness that must be overcome during the early periods of life, actually increases the amount of medical work which must be cared for. Physicians need never fear that their practices will be submerged under the wave of preventive medicine. There will not only be a transformation of the character of practice on its therapeutic side, but there will also be a marked increase in the nature of public service to be performed. In addition, it may be said that preventive medicine begun under state auspices involves the creation of a large variety of positions, remunerative in character, involving part time, or whole time work, enabling medical men to particularize their efforts in directions possessing new interests.

The rural medical situation presents various difficulties due to a lack of physicians, a paucity of hospitals, laboratories, and diagnostic aid. The limitations of nursing, ambulance service, first aid stations, and similar agencies for assisting the community are well known. Only in industrial plants has an attempt been made to meet the hazards of industry, while the farming population finds itself without adequate medical resources.

Part of the problem of provisioning the nation arises from the emigration from rural to urban sections. Our method of meeting this undesirable direction of persons from rural areas consists in bringing rural sections up to the standards now demanded in urban communities. The telephone, the automobile, recreative schemes, community forums, health centers, and other activities are functioning in rehabilitating a rural morale. In the general scheme of health, livability plays a part in promoting contentment. A position of ample means is not of itself sufficient to assure personal health, which is in its broadest significance essential for contentment, and a sense of well-being. There are therefore, numerous reasons why state action in protecting the welfare of rural areas demands public support. The medical profession being practically involved in this modification of medical practice should recognize its possibilities, and study the plan thoroly with a view to affording the maximum cooperation compatible with their understanding of the part state aid must play in developing their own medical resources. Aiding the profession benefits the public. Active medical support increases the public respect for medical opinion and medical service.

Laboratory Reliability.—The tendency to rely upon laboratory examinations and reports decreases the attention bestowed upon medical histories and clinical observation. For various reasons, possibly a desire for a shortcut, ordinary laboratory reports have been elevated in the mind of practitioners to positions of absolute determination rather than upon a plane of corroborative testimony.

Frequently, the physician is jarred by the failure of laboratory examinations to aid diagnostically, and not infrequently he is greatly surprised by the appearance of a positive or negative report which is at variance with his opinion. At such times there is an urge to put aside his own clinical judgment and accept the report from the laboratory technician. There is failure to recognize the fallibility of laboratory workers because of influence of the personal equation, the variability of media, and the modifications of technic that play an important part in all laboratory work, from tests for albumen in the urine to the most complex serologic examinations.

In the *Albany Medical Annals* of July 1920, Lawrence and Finley report "A Comparative Study of the Diagnosis of Specimens from Cases of Typhoid Fever, Tuberculosis and Diphtheria in Different Laboratories in New York State." Their findings indicate that there is a dissimilarity of reports, due to the employment of differing terminology or to a "variance in the degree of delicacy in interpreting findings." For tests in various state laboratories of the same specimens, for which a standardized technic was supplied, there were variations in interpretation. Three typical cultures of bacillus diphtheria were reported as follows:

A positive by 28, negative by 2.

B positive by 24, negative by 4.

E positive by 29, negative by 9.

For specimens containing no bacilli diphtheriæ, but *B. hoffmanni* and *B. pseudodiphtheriæ*, G. was reported positive by 5, negative by 24; H. positive by 11, negative by 19; I. positive by 10, negative by 24. These diagnoses were made from slides, and in consequence, there was no aid from a study of the growth on serum. Sputum examinations gave far more accurate results, the greatest variation being specimen F., reported positive by 26 and negative by 4. These interpretations are worthy of note because the staining and examination followed the same general technic, and the reports were sufficiently variant to indicate the danger of patients with tuberculosis and diphtheria escaping detection, or of those not possessing the infection being quarantined and treated for such serious diseases from which they were free.

These discrepancies in laboratory technic and interpretation are, by no means, as striking as Wolbarst's consideration of the contradictions in reports on Wassermann tests described in the *New York Medical Journal*, Jan. 31, 1920. The dependence of the clinician upon laboratory workers for the serologic examinations emphasizes the grave necessity for securing a dependable serologist whose enthusiasm for securing positive reports does not cloud his judgment nor exaggerate his procedures, designed to secure precision. It is of the utmost importance that the clinical manifestations of lues be given full weight, despite negative laboratory findings, nor should they be disregarded in event of a positive finding. This precaution is necessary because it is difficult to place absolute

dependency upon laboratory methods, despite their reasonable degree of corroborative reliability.

As Noguchi himself has stated, "the same syphilitic serum will give reactions from complete negative to the strongest positive, according to the kind of antigen used or the mode of making the antigen emulsion." Hence, it is patent that uniformity in results is impossible without a standardization of antigen. The clinician is in no position to interpret the laboratory findings, being in ignorance of the antigen employed, not to mention his lack of acquaintanceship with what may be termed good or bad serologic technic.

The fact that there are numerous contradictions in serologic reports dependent upon numerous factors existing in different laboratories, is indicated by Wolbarst's figures wherein for the same 12 bloods, serologist A reported 4 positives and 8 negatives; B 7 positives and 5 negatives; C 5 positives and 7 negatives; D 2 positives, 9 negatives and 1 doubtful. Of 219 tests made by 3 different serologists, there was agreement in 53%, differences in 11%, and flat contradictions in 36%. Such variations as these strongly suggest the undependability of any single serologist working independently and unchecked by the technic of a second examiner.

Considering the necessity of securing maximum efficiency in diagnosis, one may ask whether the certainty of laboratory results is so much greater than the accuracy of clinical observation. How far is the clinician justified in laying aside his own diagnosis based upon careful study, history, and observation of a laboratory report? Undoubtedly, Wassermann tests detect syphilis when there are no observable symptoms, and when ignorance of infection or

deceit leads the examiner to believe that a chance has never existed. In frank syphilis, however, the test may at times be reported negatively and lead to consequences most serious if the clinical diagnosis is completely disregarded.

No one doubts or questions the necessity and value of laboratory work. The very contradictions referred to do not challenge its worth. The variations in results strongly argue for greater efforts at uniformity in technic, a standardization of antigens, methods of staining, and a balance of methods thru the employment of more than one examiner. Fortunately, serologic agreement is more likely to occur in negative cases so that a greater reliance may be placed upon negative reports. The clinician, however, must continue to view with suspicion positive findings not in accord with clinical observation, and in justice to his patients must more thoroly test the accuracy of his laboratory reports. The laboratory is by no means a substitute for clinical diagnosis.

Vocational Rehabilitation.—On June 2, 1920, there went into effect the Federal Act to provide for the promotion for Vocational Rehabilitation of persons disabled in industry or otherwise, and their return to civil employment. This legislation was an outcome of the war experience with surgical and vocational readjustments. Funds are to be allotted proportionally to population upon condition that there shall be expended by the state at least an equal amount for the same purpose. Fortunately, provision has been made that none of the money appropriated for the benefit of the states "shall be applied, directly or indirectly, to the purchase, preservation, erec-

tion, or repair of any building or buildings or equipment, or for the purchase or rental of any lands." This makes certain the utilization of public funds for the restorative purposes indicated.

The breadth of the law is manifest in Section 2 which construes "persons disabled" to mean "any person who, by reason of a physical defect or infirmity, whether congenital or acquired by accident, injury, or disease, is, or may be expected to be, totally or partially incapacitated for remunerative occupation." This defined provision opens up the way for a most necessary branch of public service, and is indicative of a desire to conserve manpower for public service. The passage of this bill transfers responsibility to the various states of the union, and places upon them the onus of organizing and developing a functional service. This phase of medico-social work, particularly in its educational aspects, demands thoro investigation and study in order that it may be properly established and organized without waste of time or energy.

For the consummation of the purposes of this Act there will be requisite most careful cooperation on the part of public and private hospitals, and dispensaries, in order that "persons disabled" may gain the benefit of the privileges. The problems of vocational direction and guidance, and the educational procedures to be followed will, undoubtedly, be based upon reports of Boards of Examiners for that particular duty. It, therefore, becomes necessary for the medical profession to familiarize itself with the relations existent between structural handicaps and industrial potentials. Thus is opened up a new field for medical service, partaking of an enrichment of opportunity for public welfare without

any sacrifice of medical standards or skill. Here again is illustrated the fact that growth of interest in social welfare increases medical resources and medical opportunities.

The Federal enactment merits a prompt response on the part of state legislatures. And medical societies should be among the first to urge upon legislators the need and importance of undertaking Vocational Rehabilitation along the generous lines contemplated in the act.

Laws Relating to Communicable Diseases.—The registration of communicable diseases is fundamental for communal protection. The list of such diseases is gradually increasing, as science demonstrates the causal element being spread thru personal contact, or bacilli carriers. In emergencies an epidemic may be listed as reportable upon the theory that its dissemination is due to a contagion transmissible by human beings during social intercourse.

In the *Pennsylvania Health Bulletin*, January 1920, is reported the Pennsylvania Health Legislation of 1919. Act 400 provides for the reporting, quarantining, and control of diseases declared communicable by this act and by regulation of the Department of Health. It is of more than passing interest to note that gonorrhea and syphilis are not listed among the communicable diseases enumerated, while there is an inclusion of trachoma, impetigo contagiosa, scabies, and uncinariasis. It becomes the duty of physicians to report in writing, the location of all communicable diseases. Section 2 provides that health officers "shall quarantine or cause to be quarantined the premises in which such diseases exist and any person or persons who has or have

been exposed thereto, in the manner prescribed by the rules and regulations both of said health authorities and the State Department of Health." This reference to quarantine of communicable diseases makes provision that it shall continue "until the recovery, death or removal of the patient so suffering, and shall be determined in accordance with the rules and regulations of the health authorities and the State Department of Health." Section 5 makes provision for the exclusion of persons suffering from diseases declared communicable, from public places, and forbids their exposure on any public street. Section 7 grants permission to other children or persons not afflicted, but residing in the same premises with any person suffering from the communicable diseases to attend places of amusement, church, public gatherings, or to be exposed in public streets, store, shop, or any other place of business, only by permission of the health authorities. As a whole, the act is comprehensive in scope, but one is in doubt as to whether this regulation is thoroly workable.

Legislation that is spread upon statute books, merely for effect, is unsafe and weak in character. How far will this act, for example, obtain in practice to exclude from exposure on public streets, victims of tuberculosis in any form, whooping-cough, trachoma, impetigo, scabies, and uncinariasis? It is, of course, true that these are all communicable diseases, and under certain conditions quarantine may become essential. It is doubtful whether a placard is actually employed upon the premises inhabited by persons suffering from these specific conditions. Undoubtedly, no effort is made to quarantine tuberculosis or whooping-cough, not to mention the communicable dermatoses. Registration and

supervision are probably all that are attempted. Nevertheless, in Section 15 there is specific mention of whooping-cough as one of the diseases from which sufferers are enjoined from wilfully exposing themselves in any public street, or place of public conveyance. Furthermore, Section 26 provides a penalty for all violations or refusals to comply with the provisions of the act.

In line with the broad provisions of the act, Section 13 provides for the disinfection or destruction, in such manner as may be authorized and required by the health authorities, of all premises which have been occupied by the person or persons who have suffered from tuberculosis, or any of the diseases comprehended by Section 2 of the act which includes, as specifically mentioned, "anthrax, bubonic plague, cerebrospinal meningitis (epidemic), (cerebrospinal fever, spotted fever), chicken-pox, Asiatic cholera, diphtheria (diphtheritic croup, membranous croup, septic sore throat), German measles, glanders (farcy), leprosy, measles, mumps, scarlet fever (scarlatina, scarlet rash), typhus fever, whooping-cough, typhoid fever, paratyphoid fever, yellow fever, or any disease declared communicable and quarantinable by regulation as hereinbefore provided." This disinfection is to occur upon removal to a hospital or other place, or upon discharge by recovery or death. Patently, this section is not followed in public practice. There is no practice of disinfection, certainly, after chicken-pox, German measles, mumps and whooping-cough. To this extent the act represents an overstatement of intentions.

These few items are selected from a most excellent enactment, designed to safeguard human life and health. If, however, the wording of the act were strictly in ac-

cordance with modern theory and practice, it would more easily approach an ideal presentation of the necessities of public health protection, thru the reporting and quarantining of communicable diseases. Health legislation should be accurate; neither an understatement nor an overstatement of intentions and purposes. It should not be open to criticism on the basis of failure to conform with these provisions, impracticality or lack of intention to observe the legalized intentions. Our laws should be sufficiently stringent to provide for all emergencies, and possibly that was the intention of the promoters of this particular piece of legislation. It is not, however, a model for other states, because of its inherent weaknesses that raise from a continuous failure to carry out its provisions.

There is some contempt for a law which the health authorities fail to respect absolutely. No loophole should be presented to potential law-breakers who disregard the principles of hygiene and sanitation. To impress the public with the worth of legislation, there must be the conviction of its necessity, and a persuasion to obey it in cooperation with the health department.

Is Leprosy Decreasing?—The status of leprosy in the United States is rather indefinite. Hoffman, making an inquiry into the question of leprosy increasing in the United States, agrees that estimates of the probable number of lepers in the United States are, virtually, approximate guesses. One of the difficulties lies in the fact that non-segregation of patients makes accurate numerical investigation difficult. The agitation for a federal leprosarium is based upon the belief that there is a slow increase of leprosy in this country. The disease is

widely scattered in the United States, tho there occurred only 24 deaths from this cause in 1918. The rate in the registration area, however, has gradually increased from 0.13 in 1900 to 0.29 in 1918. At a conservative estimate there are probably at least 400 lepers in the United States.

Along with the suggestion that leprosy is making a slow increase, comes the more pleasing report by MacDonald and Dean, *Public Health Reports*, August 20, 1920, indicating that leprosy is not to be regarded as an incurable disease. For many years chaulmoogra oil has been recommended as particularly efficacious in the treatment of leprosy. Experiments now indicate that this oil contains some derivatives, which have not been adequately determined, that possess particular therapeutic value. The intramuscular injection of the ethyl esters of the fatty acids of chaulmoogra oil appears to bring about a rapid improvement in the clinical symptoms of leprosy. The injection method is so much more effective than the oral administration of the oil derivatives that the latter may be deemed of minor importance. Thus far, experimental evidence indicates that the therapeutic action is due to one or more of the fatty acids of the oil, or to some substance contained in or associated therewith, but which has thus far escaped identification. It is significant that during the period from October 1, 1918 to December 31, 1919, more than 25% of the patients who had been in the Kalihi Hospital of Hawaii were paroled as "apparently clinically and bacteriologically, free from the disease."

The use of the injection does not supplant the ordinary auxiliary agencies requisite to build up bodily vigor, and to maintain physical improvement, and a heightened morale.

In all probability, the most beneficial and certain type of treatment may be secured at a leprosarium. With the mild degree of contagion thus far exhibited by leprosy, in all probability leprosy patients may be satisfactorily cared for with decreased expenditures in ordinary hospitals, if the injection treatment proves to be as effective as present results suggest. The identification of the active therapeutic substance will, of course, simplify the technic, and possibly intensify treatment leading to a shortened period of active medication. If this should transpire, it is patent that the need for numerous leprosaria will vanish, and that leprosy will at least come within the category of curable diseases amenable to sanatorium treatment and specific medication.

Our lack of knowledge concerning the origin of leprosy as far as its transmission is concerned, makes it impossible to perfect a scheme of prevention. The slight extent to which it prevails in the United States places the disease as endemic in only a few states, and even in those communities it would be difficult to attack the problem on a prophylactic basis. There is, however, much comfort in the progress that has been made in the management of this disease, and considerable reason to believe that with the improvement of therapeutic technic the mortality figures for leprosy will soon manifest a decline.

Cottage Cheese.—Cottage cheese is richer in protein than most meats and is very much cheaper. Every pound contains more than three ounces of protein, the source of nitrogen for body building. It is a valuable source of energy altho the proportion is not so high as in foods with more fat. It follows that its value in this respect can be greatly increased by serving it with cream, as is so commonly done.—*Trained Nurse.*



The Menace to Marriage.—Within three decades, if the present divorce rate is maintained, divorces will equal the number of marriages in Chicago. This conclusion is drawn by the well-known Chicago divorce expert, W. F. McDermott, from figures issued for the preceding year, and there is no reason to doubt the accuracy of his deduction. Statistics recently issued show that there were 37,000 marriages and nearly 6,000 divorces in Chicago last year. This represents an increase of 20 per cent. in eight years and in thirty years the 100 per cent. mark will be reached. In other words, there will be a divorce for every marriage. Conditions in Chicago do not differ very much from those in any of our large cities. Everywhere the same tendency is manifest—an amazing increase in the divorce rate. Mr. McDermott, in quest of fundamental principles, discovers that of the parties concerned in 3,577 divorce suits filed in 1914 only seventy-owned homes, while in 2,171 cases they were childless. "These figures," he concludes, "indicate increasing childlessness, the growth of the apartment house habit, and the tendency toward ease, indulgence and fast living. They presage more broken homes and a still greater menace to America's future." This study of the modern divorce problem, like so many recent ones, tho it frankly seeks fundamentals, merely scratches the surface of the situation. It is true that the modern love of ease, indulgence and fast living has contributed something to the divorce evil, but this is merely one of the minor, almost negligible, aspects of the problem. There is something much more fundamental in the increasing universality of marriage failure and all recent attempts to correct the tendency have been futile because they have approximated the proverbial attempt to fit a square peg into a round hole. They have started from the

false premises that marriage is perfect and man is imperfect and that therefore man should be made to conform to marriage. It has occurred to but few students that perhaps it would be more farsighted to trim the round hole so as to accommodate the square peg, to alter marriage conditions so as to better suit the modern, highly organized individual.

Mr. McDermott's figures for Chicago, which are equally representative of any of our large cities, point to the conclusion that divorces are becoming more frequent, not because of an increased love of ease and indulgence, but because the marriage state has fallen into disrepute both with those who take marriage seriously and those who take it frivolously. No one who sees the débris of marriage wrecks among his friends can adhere to the absurd faith that all is well with marriage and that it is the individual rather than the institution that is at fault. The root of the trouble lies in the fact that the individual has moved on far in the past two thousand years, while the institution has remained unaltered during the centuries. It is a notable fact that in the large cities, where one finds the most highly organized individual, marriage is more markedly a failure. As one recedes from the large cities and moves toward the rural districts, where the individual approaches the elemental type, one finds that divorce is less frequent. The individual there has not progressed too far in advance of the institution and he does not chafe under its restraints. The basis of marriage, as it was originally conceived, was entirely a racial one in which the individual counted for little; it was meant as a means for breeding a family and conserving it. Nothing else counted and the primitive individual exacted little else. The man who marries in order to have children and who sees in his woman only the mother of his

children approaches this primitive type and in nearly every case such a marriage is successful. The modern man, as the modern woman, demands more in his mate than that, and it is here that the marriage institution is most defective in that it does not yield to these greater demands. It is hard to see how this defect can be removed. To us it appears an almost insoluble problem. Trial marriage, separate apartments for husband and wife, communal experiments—all these aim at the correction of a single defect and they are only imperfect measures. Trial marriage, however, frivolous as it may appear, has one very excellent feature to recommend it; it corrects one of the misleading preliminaries of marriage. Nine marriages in ten are the result of a sexual fascination which is only temporary and which does not survive the disillusionment of marriage. The basis of these unions is a fleeting attraction out of which one awakes only to chafe under bonds which are permanent. The vast majority of marriages founder on this rock. Here, at least, is a fertile field for the student. If one can remove this imperfect basis of so many marriages, if one can render harmless the first instinct to yield to a passing fancy and shackle it with permanent bonds, a long step will be taken in the direction of solving one of the primary causes of divorce. This may appear a trivial solution for a grave problem but a complicated situation will often yield to a simple measure. Remove the often trivial erotic motive from marriage, and a new, weightier and more permanent basis may result—a basis of tried companionship, of matchood, of parenthood.

Wanted—Two Million Husbands.—

There are two million marriageable women in France who cannot find husbands in their own country and a movement is being launched to import husbands for them, chiefly from America. Despite her disappointment in America's conduct in abandoning the intrigues of Europe, France still feels her kinship for the sister republic across the water and she pays the American the compliment of the tacit acknowledgment that he would make the best husband. Two million Americans of marriageable age are invited to come to France—object,

matrimony. On the face of it and at first blush, the situation seems an utterly absurd one. Think of contracting marriages in the twentieth century in the manner which was already old-fashioned in the nineteenth! It seems contrary to every modern instinct. And yet, laying sentimentality aside, the project is not as grotesque as it may appear. As some one has said, if the names of all the marriageable women were put in one hat and those of all the marriageable men in another, and marriages were arranged by drawing the slips out in pairs at hazard, there would not be as many failures as there are with a free (or seemingly free) choice such as exists. It is hard to conceive any marriage scheme which would work out any worse than the institution such as we know it. In fact, the French scheme to import husbands and arrange marriages for their mateless women is likely to prove a very successful experiment. To a sentimentalist, such a conclusion must appear shocking. But, as was pointed out in the preceding article, a modern marriage is successful in proportion to its approach to primitive standards. And the French plan is based on the primitive theory of marriage. There is no intrusion of twentieth century sentimentality, no complication of motive, emotional or otherwise. The men and women who will come together in this way will come together for a single purpose, to marry, to found a home and a family. The women who will submit to this procedure will be women in whom the maternal, the home-loving and home-building instinct is dominant. They will ask little of their husbands except that they be kind, that they provide adequately, that they be fitted for parenthood. This is not a severe demand and it can be gratified easily. The man who accepts such an arrangement will hardly be more exacting. He will want a woman who is not too homely, who can make a home for him and who can be a good mother to his children. It is an instance *par excellence* of a primitive marriage arrangement in which the individuals count for little and in which race considerations are dominant. There is little likelihood that the response on either side of the water will come from the more highly organized members of society. The peasant woman in France, the simple, uncomplicated woman of the small town will find her mate

in the same class in America, should the plan really become operative. They will have their home, they will have their children, and they will have their little misunderstandings; but they will survive, for they will fulfill the purpose for which they came together.

In one respect, it is to be hoped that many American youths will respond to the call. With the resulting shortage of men in America our too spoiled American girl will be obliged to step down from the high altar on which she has been placed by American manhood and will find it incumbent on her to offer something in return for the homage she receives at present with such an aloof and disdainful smile of semi-appreciation. She will have to compete for her man, and the competition will do her good.

More Babies!—Europe views with alarm her diminished populations. France particularly is anxious and every effort is being made to encourage large families. Bounties are promised, with awards and inducements of every kind. And now a savant comes forward with the sensational suggestion that women be compelled to have babies; that just as military service is obligatory for men, maternal service as a duty toward the state should be obligatory for women. In France men are compelled to do military service for three years. A maternal service of three years being inadequate, it is suggested that women be inscribed on the rôle of motherhood from eighteen to forty years—twenty-two years of service. During these years they will be compelled to make their maximum contribution to the state.

This suggestion could be dismissed with the complete indifference (one is ready almost to say contempt) which it deserves, were it not for the fact that it is looked upon very favorably by those in whose hands the destiny of the country reposes. To them it seems an admirable suggestion, a necessary course. And once more we revert to the primitive notion that a couple's contribution to the welfare of the state is measured by the number of their offspring. Nothing could be more misleading, more erroneous. And the Frenchwoman certainly will not be misled by such sophistry. The

passions and the enthusiasms of the war are dead, but one conviction remains with the woman of France—she will no longer sacrifice herself to her family only to see it destroyed for dynastic or financial ambitions. She will not contribute sons to the armies of the world. The unanimity of opinion and determination in this respect is extraordinary. Ask a childless woman why she has no children. "Why should I spend twenty years raising a son," she will respond, "and then see his life snapped out at the whim of his rulers? I will have children when I am sure I can keep them."

But there is another aspect of this fatuous and futile mania for repopulating the world. Why? If the world were twice as thickly populated as it is, who would be the happier? Numbers achieve nothing. It is the old tribal instinct, the instinct of self-preservation aroused by fear of one's neighbors. More children mean merely more soldiers, greater security. There should be an easier way of ensuring this security. The world is over-populated rather than under-populated. We are not sure but that if the population of the entire world were cut in half the remaining half would be the better off for it. The encouragement to breed prolifically comes from the upper classes, who do not breed at all, and is meant to affect the lower classes, who breed too much. It is no wonder that these lower classes suspect the propaganda is meant merely to provide the owning classes with more workers, so that competition will make labor cheap. The intelligent middle class is wise in remaining deaf to these influences. What the world needs now is quality rather than quantity. Better babies rather than more babies is the crying need of the time. If a couple reproduce themselves and reproduce with the advance a generation requires, they have done their duty amply by the state, and they have done their duty amply by themselves, which is just as important. The sooner the fallacy of numbers is abandoned, the better for the universe.

Spiritualism and Spiritasters.—Only four days after the death of Prof. Hyslop, the famous investigator of psychic phenomena, a medium was already in communication with his spirit. The seance was inter-

esting for many reasons, chiefly the boldness and precision of the "message" alleged to have been transmitted. It was conducted by a popular Canadian spiritualist, who employed a salesman as his medium. Prof. Hyslop was a scientist of no mean pretensions and achievements and it is interesting to observe what "message" a presumably unscientific salesman can convey. The circumstances of the scientist's introduction are pompous and ambitious. He appears in the distinguished company of such illustrious spirits as that of the philosopher Plato, the statesman Abraham Lincoln, and the poet Coleridge. It is Coleridge who presents him. Odd company for so young a spirit indeed! And what is his message? That he finds very little change in his new existence, that the translation from the flesh to the spirit is a less formidable one than is imagined on earth. The language of the medium is clumsy, even incompetent, in transmitting a reflection of which only a scientific mind is capable and which only a trained mind could faithfully convey. But in other respects the message is practical and intelligent. Prof. Hyslop's spirit promises the completion of a manuscript left unfinished on his death and the remaining portion will be transmitted thru the collaboration of a medium. Presumably the salesman in question will be the medium and the Canadian spiritualist will have a legitimate claim on the accruing royalties. Prof. Hyslop (if that is still his name in the spirit world) also conveys the information that Sir William Crookes, like himself (or is it itself?), is still occupied with the interests of humans and is pursuing his experiments in the celestial laboratories, hoping soon to forward to this carnal globe discoveries which will be of infinite benefit to the whole world.

The incident is significant in view of the fact that soon after the death of Prof. William James, who in his later years professed a keen interest in psychic phenomena, mediums were in close touch with his spirit and conveyed "messages" very much like that from Prof. Hyslop. Regarding Prof. James, however, there is a circumstance by which unbelievers, or at least those who stubbornly remain unconvinced, set great store. A few days before his death, Prof. James addressed a note of but a few words to a gentleman who has been instrumental in exposing many notorious mediums. When

mediums announced that they were in touch with the philosopher's spirit and were getting many and profuse messages from him, this gentleman offered a reward of \$5,000 to any medium who could obtain from William James' spirit a statement of what those few words in the note were. This offer was made several years ago and has been renewed repeatedly and specifically. Never yet have any of the mediums come forward to claim this money, certainly a tempting reward for knowledge that should be easy for them to acquire. If they can obtain accurate information of so many trivial and unimportant plans and reflections from the departed men, surely it should be a matter touching the conscience of the spirit that it should wish to give a convincing demonstration of its existence and its ability to establish contact with the living. It would seem that every conscientious medium would do his utmost to render this service to his profession and his philosophy. It has not been done, and the message of William James to his friend remains a secret still.

The Gullibility of the Scientist.—It is little things such as this that trouble those who, in all fairness to a science, if such it may be called, which still has to demonstrate its genuineness, are reserving judgment in a mooted and much discussed question before coming to a definite decision, and it is just such incidents that tend to drive them in the direction of doubt. It is only because such great names have been associated and are associated with spiritualism that many who otherwise would be unqualified in their contempt are still respectful, and they remain so not only because of the eminence of the protagonists of spiritualism, but because of the baffling and weird nature of many amazing demonstrations. For it must be said that the demonstrations are distinctly more persuasive than the logic of the famous men who have defended spiritualism. This logic has either been faulty in many cases or it has been based on utterly erroneous premises. The scientific mind is often very gullible. In search of the profound truth, it often overlooks the most manifest and obvious betrayal. A famous instance is that of the late Hugo Münsterberg, who was completely taken in by the child Beulah Miller. So completely focused on a psychological expla-

nation for the child's amazing psychic powers was his mind that when it was discovered that her mother was tapping on a loose board in the floor which reached to Beulah's foot, Münsterberg preferred to believe that the mother's action was entirely subconscious, her intense effort to communicate her thought being responsible for the movements of her foot. A more careless observer would have discovered the truth at once, that the mother was prompting the daughter, giving the information known to her and not to the child. In the same manner Lombroso was hoodwinked by Palladino. It is a question whether the scientist, because of the very inquiring nature of his mind, is a fit agent for the investigation of psychic and spiritualist phenomena. As some one has suggested, Keller the Great, or Thurston the Magician would be infinitely more competent. They know the tricks of the game so well themselves that their trained eyes can detect the trickery employed. In fact, their explanations of such phenomena, in terms of magic, have always been competent and convincing. They have even been able to repeat, sometimes with greater success than the inspired medium, the miracles of the professional spiritualists. Science would be better served if the next time an investigating body is constituted, it has on its list some of our leading vaudevillians who make an honest living by fooling an audience that knows it is being fooled and pays to be fooled cleverly. The whole question of spiritualism is degraded by the fact that millions of guileless, honest people, with a tragic anxiety about beloved departed ones, are being victimized by spiritasters who exact a conscienceless price for the "messages" they bring to those who innocently come to them for help and guidance.

Changes of the Year in Medical Education.—The *Journal of the A. M. A.* in its special educational number (Aug. 7, 1920) gives some highly interesting data concerning the changes that have taken place during the past year in medical educational circles. For instance, in all medical schools during the last session there were 14,088 students, or 1,036 more than during the previous session. These increases are in the first, third

and fourth year classes, smaller second year classes following naturally the small freshman enrolment in the fall of 1918 caused by war conditions. The medical schools have passed the low ebb in enrolments which was expected with the enforcement of higher entrance requirements, and the pendulum is now swinging the other way. It is encouraging to note that the increased enrolments have been most marked in Class A medical schools, the number enrolled this year having increased from 87.9 per cent. to 89.6 per cent. of all students. The percentage in Class B schools decreased from 8.3 to 4.8, and in Class C schools it increased from 3.8 to 5.6. The figures for Class C schools, however, are uncertain since they are based on unverified reports.

The number of graduates this year was 3,047, or 391 more than in 1919. Note here, also, that the number of graduates of Class A colleges was increased by 470, while the numbers graduating from Class B schools decreased by 116. Of the Class C colleges, there were thirty-seven more graduates than in the previous year. It is pleasing to note that the number of graduates holding degrees from colleges of arts and sciences increased from 1,180 to 1,321, which is 43.5 per cent. of all graduates.

The number of medical colleges is eighty-five, the same number as last year. One Class B college closed its doors, while a Class A college, previously reported as having closed, determined to continue its existence for two more years.

The Prescribing of Alcohol.—It is a matter for regret that any reason should have arisen for Commissioner Williams of the Bureau of Internal Revenue to place a limit on the number of prescriptions each physician may issue, in a given period, for alcoholic stimulants. But it is still more regrettable if, as alleged, this reason is to be found in the extent to which not a few physicians have abused the proper medicinal use of alcohol.

Commissioner Williams is entirely within the administrative provisions of the Volstead act in imposing such a limitation. Consequently, there is no course left open to honest, self-respecting physicians but to abide by his ruling. They should not only obey the law strictly themselves, but omit

no opportunity of urging others to do the same. Disapproval of the Eighteenth Amendment, or doubt of the wisdom of its passage, cannot possibly justify any medical man in ignoring or violating any of its provisions. Our obligations are no less under a law we consider unjust, than under one we heartily endorse. As part of the Constitution and the organic law of the land, the Eighteenth Amendment must be obeyed absolutely. The physician who allows himself to become lax or careless, in the slightest degree, in prescribing liquor is as guilty of wrong as the most wilful violator. Worst of all, however, he is running the risk of being classed with the unscrupulous doctors who are breaking the law by issuing prescriptions for alcohol for other than medicinal uses. Every honest physician—and thank God most physicians are honest and law abiding—owes it to himself and the profession he honors and reveres, to carry out the law and regulations pertaining to the use of alcohol, in the most careful and scrupulous manner.

Undoubtedly placing a limit on the prescribing of alcohol by reputable medical men, has hurt the prestige of the entire profession, for these regulations create the impression that a far larger number of physicians were prostituting their profession than was actually the case. But those honest physicians who have occasion to use alcohol in their work can only blame their crooked confreres. The men who have made profit out of the illicit sale of their prescriptions deserve nothing but contempt, for they have not only degraded themselves completely, but what is much more serious and more important than this, they have degraded the entire profession. The surest way to repair the damage is for the great body of decent physicians to follow the regulations promulgated by Commissioner Williams as punctiliously and faithfully as they possibly can.

Food and Long Life.—There have been many books written concerning foods and feeding, but there has been none put forth in recent years that promised greater aid to the practicing physician in his daily work than the little book called "Eating to Live Long." Written by Dr. William H. Porter, with the collaboration of Dr. Edwin

F. Bowers, this book is a veritable gold mine of information on diet. In view of the general lack of knowledge on the subject of foods, the practical value of such information from sources as qualified as the authors of this little volume, will be readily apparent. The headings of some of the chapters will indicate at once the scope of the material given:

"The Why and How of Food."

"Turning Food Into Fuel and Repair Stuff."

"Getting Rid of the Ash and Cinders."

"Mineral Salts and Vitamines."

"Food Fads and Foolishness."

"The Crimes of Cooks."

"The Ideal Diet."

"The Demented Diet of a Business Woman."

"What is the True Status of Alcohol?"

"Curing Disease by Diet." Etc., etc.

Many of the views expressed by Dr. Porter seem rather revolutionary, but they are so well based on sound common sense, that after due consideration by the reader, they can hardly fail to be accepted. Unfortunately, we have not the space available in this issue to discuss, as we would like to, some of the more or less radical ideas the authors have set forth. But in early numbers we shall take up some of these new opinions, for we believe they will prove topics of unusual interest. In the meantime, we do not hesitate to say that there is no recent contribution to the subject of diet that thoughtful medical men will find more interesting and valuable than "Eating to Live Long." It is indeed a book "worth while."

Another Strike!

The lunatics are all as mad as can be,

They're raving and running amuck;
Their disturbance has all of the others
outclassed,

For the movement has reached the asylum
at last,

And all of the inmates have struck!

The maniacs fight with their might and
main,

The bedlamites jump from their beds;
The Insanity Union has uttered this threat:
Unless their demands are instantly met,

They'll tie up every wheel in their heads.

—*The Idiot.*



THE BETTER METHODS OF WOUND TREATMENT—LESSONS FROM THE WORLD WAR.

BY

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Modern surgery demands that every practitioner of its science and art shall be capable of making and maintaining a wound in normal structures aseptic. Primary union is the rule—the exceptions are few.

To obtain this high efficiency is a double duty; *first*, to the sufferer who entrusts himself to the surgeon's care; *second*, his own obligations to a noble profession and to his knowledge that, without this ability, he is a failure as a surgeon. Surgery is a science rather than an art.

The surgeon must be trained as a dexterous, skilful operator, but, as one of my great masters said to me long since: "It is more important to know *why* and *when* than to know *how*."

Surgery within a generation has been in large part rewritten. Medicine is being elaborated upon new biologic factors of equal importance.

When I was a student in the University in Berlin, many ambitious Americans sought that city, as the most progressive center of medical instruction.

National antagonism dominated all

European schools—the Englishman no longer studied in Paris; both British and French scholars decried German scientific learning.

For a long time Edinburgh was the center of medical teaching most sought by the leaders of American medicine during the Colonial period.

The Hunters, Percival Pott and Sir Astley Cooper, the latter surgeon-general with Wellington at Waterloo, were co-workers with others in founding the medical center in London.

The French School of Medicine was made famous by Baron Larrey, Napoleon's honored surgeon-general, under whose influence military surgery advanced to the front rank. He practically eliminated smallpox from the French armies by compulsory vaccination and he devised the so-called flying ambulance which was kept in close touch with the line of battle for the succor of the wounded.

In collaboration with a group of noteworthy scientists, he made Paris the mecca of foreign medical pupils.

Later there followed the rise of scientific research in Germany, the special centers of which were at Vienna and Berlin. Thus the rivalry widened. The Civil War offered advantages of medical and surgical training in America.

Our generation has witnessed a develop-

ment which is a truly phenomenal and quite unlooked for fruition, owing to the general use of anesthesia for all major operations. The discovery of ether antedated the Civil War. Morton, Jackson, Long and Wells are names to be remembered. The chief benefit derived from the long controversy of these rivals for priority in the introduction of anesthetics, resulted in the wide advertising of ether.

Mr. Lister's demonstration that microscopic vitalized organisms were usually present in wounds, was a revolutionary discovery. From their rapid reproduction in wounds, Mr. Lister called them germs.

American and European scientists demonstrated that these so-called germs consisted of a large variety of organisms subject to laws of varying virility and development. I returned from Mr. Lister's teaching—his first American pupil—determined to devote my life to surgery, modified and controlled by these new and comparatively unknown causes of "blood poisoning."

We established a laboratory with two trained assistants, the late Drs. A. P. Holt, after surgeon-general of Massachusetts, and Samuel N. Nelson, who were for years my patient, enthusiastic and faithful assistants in biologic research. We erected a modern hospital, since both were essential to the scientific elucidation of the problems. New factors arose; the differentiation of a variety of these infective organisms was long and tedious, altho the work was inspiring. Mr. Lister's conviction that wound infection was chiefly carried by the atmosphere was proven only partially true.

Little by little the technic was simplified; the spray was abandoned as uncertain and ineffective. The operator and his assistants, as also the surgery instruments, etc., were carefully prepared; person and clothing

underwent a process of disinfection; the mouth was a possible source of contagion; a mask was worn. The hand and its germ-bearing conditions received attention; permanganate of potash and oxalic acid were freely used, and painful are our memories.

Finally the infection, almost ever present, was traced under the finger nails of the surgeon, where lurked the enemy. The silk glove, soaked in bichloride of mercury, was superseded by the rubber glove. The modern rubber glove is the outcome of three years of experimental study in our laboratory. The Miller Brothers, of Akron, Ohio, were most painstaking and helpful. After producing a satisfactory glove they advised protection by patent to prevent the substitution of an inferior article, offering me ten cents a pair royalty. Professional pride, however, forbade the association to trade-profit with any contribution to surgical needs. Later a member of the firm wrote me, "you lost one hundred thousand dollars a year by your refusal. Our factories in the last twelve months have produced over a million of pairs."

On returning from Europe in 1870 I brought a considerable amount of surgical dressings prepared under Mr. Lister's personal direction. A new question was raised by the port inspector under what class can these goods be considered dutiable.

Quite to the last, Mr. Lister advocated the time-honored technic of wound closure and *drainage*; so difficult is it to change the fixed habits of training. He distinguished himself also by ligating arteries in continuity with sterilized catgut cut short and buried in the wound.

Dr. Jameson, of Baltimore, it is true had established the safety and advantage of occluding the arteries by animal ligatures,

the vessel being replaced in normal position. This was advised since by so cutting short the ligature the wound could be closed. The interrupted suture applied was absorbable, not silk or linen. The especial novelty of Dr. Jameson's studies was twofold. He maintained that secondary hemorrhage was thereby obviated, and that the ligating material, usually catgut or thin strips of kid, was absorbable. In his hands, as a rule, the wound closed by primary union, the artery never separated in its continuity, but became occluded permanently by the proliferation of a well-vitalized connective tissue band.

In 1827 Dr. Jameson published his monumental contribution to surgery, as a prize essay. It was accepted for a time, prominent surgeons using his animal ligatures. Sir Astley Cooper used them with much success. In the hands of the rank and file of American surgeons wounds were septic and the buried ligature became a troublesome, dangerous, foreign body. We now understand the reason why.

This pioneer work was almost entirely forgotten. Urged by the great dominating conviction, Mr. Lister steadily continued his studies ignorant of Dr. Jameson's experiments. He used the thru and thru interrupted stitch of catgut in closing his wounds and governed by the belief that the serous exudate was a devitalized fluid, that it should be removed by a drainage tube. A long time elapsed before it was demonstrated that this serous exudate, if aseptic, was of great value to the injured part, serving as nutriment by absorption.

I published an elaborate series of experimental studies and named this exudate as of such value "the first aid to the wounded." At the International Congress in London, the most important subject of interest was

antiseptic surgery, a carefully prepared paper by Mr. Lister.

I was honored by opening the discussion. Interest was at fever heat. I sat beside my friend, Dr. Marion Sims, who was most deeply interested in the subject and said, when my name was called, "now Marcy for America's sake." On this eventful day the status of antiseptic surgery was established.

On my last visit to London in 1890 I saw Lord Lister operate in his own hospital. He was still using drainage tubes but said, "I cut them shorter than formerly and I leave them less long in the wound."

The International Medical Congress held in Berlin was the object of my journey. He was also in attendance and was shown the most marked attention. Professor Virchow was president. There were present over seven thousand members. The great assembly hall was filled to the limit when Professor Virchow made the opening address. He stated that the remarkable progress in surgery the last decade was due in large measure to the masterly services rendered by our guest, Lord Lister, of London. The vast audience gave vociferous applause. He also paid a graceful tribute to his American pupils; "trained in the school of the great Civil War they were students without prejudice in the universities of England, France and Germany, eagerly seeking wisdom from all; we must admit today that surgery as taught and practiced in America holds the leadership of the world."

From the Congress we attended the festival at Ober-Ammergau, where I spent a cold, rainy day of leisure in the dusty gallery of the old church writing an article, afterward widely circulated in both con-

tinents, "In What Class of Wounds Shall We Use Drainage?"

All aseptic wounds are to be treated without drainage. The wound is carefully closed with light continuous buried tendon sutures, the skin coapted in a similar way and the wound sealed with iodoform colloidon. All other dressings are usually eliminated.

The Suture and How Best to Apply It.

The catgut supplied me by Mr. Lister's courtesy was trustworthy. More being required, I obtained a supply from one of the large London firms.

One morning as a part of my public hospital service I performed three major operations under usual precautions, using the catgut just obtained from London. Most serious infection followed. One patient died on the thirteenth day, the other two made long and unsatisfactory recoveries. In each there was a streptococcal infection. Laboratory cultures were made from pieces of suture taken directly from the freshly opened bottle, producing pure streptococci. Recalling Jameson's experiences with his buried ligatures, knowing that catgut was the connective tissue sheath of the intestine of the sheep, separated after long maceration, I entered upon a search for better material.

Dr. Simmons, of Charleston, S. C., sent me tendons from the tail of the fox squirrel, beautifully smooth and fine, but too short to use. I found that the psoas muscle, in both the squirrel and the rat was multiple, each subdivision having its separate tendon extending to the end of the tail. When upon a visit to Richmond, the late Hunter McGuire obtained for me an opossum, to my delight I found the anatomic structure of the psoas muscle was like that

of the rat and squirrel, but the caudal tendons were still too short. The opossum is a marsupial; why not a similar anatomic structure in the kangaroo? The inference was correct. My first specimens in 1876 from the species known as the Wallaby were the best possible type, better than any for a long time subsequently sent to me, but a reliable supply was obtained only after years of continuous effort.

At the International Medical Congress in London, in 1881, I read a paper based upon the reconstruction of the inguinal canal to its normal obliquity for the cure of hernia. This operation necessitated the use of buried absorbable sutures which I had then obtained for a considerable period from the caudal tendons of the kangaroo. I first used buried absorbable sutures for this purpose, using catgut furnished me by Mr. Lister. Reference to my recommendation of the kangaroo tendons and their value in surgery was later made in an Australian publication urging their careful preparation and shipment. This came to the notice of Dr. Girdleston, who wrote that he had used kangaroo tendons for ligatures and had published his results.¹

It did not occur to me to widen the uses and increase the value arising from the wonderful effect of chromic acid solutions upon connective tissue.

Of course it had been long known that the skin of animals is an intricate weaving of connective tissue in which are sweat ducts, hair follicles and fat, which lessen rather than enhance its worth as leather. Two young Boston tanners investigated this subject with care, observing the action of chromic acid upon my tendon sutures, profited by it in the manufacture of leather. In

¹ Tendon Ligatures, T. M. Girdleston, *Australian Med. Jour.*, 1877.

two weeks a better product at less cost is obtained. Their patents brought a profit of two millions of dollars. Kangaroo skins are almost exclusively tanned by this process and are much superior to the best oak tanned calf skins.

I consider that the caudal tendons from the kangaroo properly prepared for sutures to be one of my best contributions to surgery. The application of the buried absorbable suture by the reconstruction thus rendered possible of the inguinal canal to its normal obliquity solved "the thousand-year-old problem of surgery." It makes a complete and almost painless cure of hernia the rule. All plastic surgery of the abdominal cavity takes on a new aspect. Hemorrhage is controlled, the injured parts are carefully restored, abraided and resected structures are recovered with normal peritoneum as far as possible. Adhesions, one of the too common causes of death, are in large degree obviated.

Kangaroo tendons are now in such demand that first-class raw material is difficult to obtain. At the outbreak of our great European War, England commandeered the entire Australian supply for military purposes. By special favor I secured enough to furnish the U. S. Government with over 300,000 sutures for our army. One hundred thousand prepared in my laboratory were used by Japan in the Russo-Japanese War, 1904-05.

Wound Technic.

Assuming that the wound is aseptic and in well-vitalized structures the problem is simple. Hemorrhage must be controlled with fine and continuous sutures; like tissues are rejoined in their respective layers. The skin itself is coapted by a similar line

of fine continuous suture, buried in the deeper layer of the skin only.

Care is exercised to enter each stitch exactly opposite the emergence of the preceding one. Thus the coapted edges are evenly rejoined and the wound is finally sealed with contractile collodion, in which iodoform has been dissolved.

This is reinforced by a few fibres of cotton. The wound dressing is finished before the patient leaves the surgeon. The success, or failure, is so clearly the result of the surgical service that the poor nurse escapes the blame too often laid upon her for lack of skill or wisdom. The above method applies to all wounds to which the major amputations are no exceptions. When great tension upon the tissues is likely to follow, especially in abdominal wounds, the major structures are kept evenly in coaptation by the use of the double continuous suture.

This has been called the shoemaker's stitch, since the tendon passes in opposite direction thru the same opening, evenly closing the structures. For this purpose I devised full curved needles of various sizes, with eye near the point, similar to the Hagedorn pattern. There is a slot on each side of the eye to prevent the slipping of the suture. Armed with the suture, the needle is introduced, unthreaded and rethreaded from the opposite end and withdrawn. In this way all the tissues are of necessity evenly included in the double loop; the closure is completed by taking the requisite number of stitches. A single knot only is needed, another manifest advantage over the interrupted stitch. Such a wound, aseptically made and maintained, at best will be followed by primary union.

All wounds of the abdomen are with difficulty maintained at surgical rest. On this ac-

count ventral herniæ are much too common even in aseptic primary union. For this reason deep interrupted, thru and thru silk-worm gut stay sutures have been used. Infection too often follows. Immobilization of the abdominal walls is secured by long strips of adhesive plaster extending two-thirds around the body.

These are carefully applied after sterilizing the wound; cut about three inches inside and overlap by about one-third "clapboarding" the entire abdomen, much as these boards are applied to the exterior of houses. My friend, Dr. Carstens of Detroit, has recently published his very valuable experiences in their use; undoubtedly other surgeons have used them. I know no better way to immobilize the abdominal wall and have used them for years.

The contrast between such a wound and the surgical treatment of an earlier day is well illustrated by the difference between a simple and a compound fracture. The iodoform in the collodion is usually superfluous, especially if the wound is dry before the application of the seal. Bloody or serous exudate from the wound is protected by the iodoform from possible infection. Mr. Lister builded well upon sure and logical premises, clearly demonstrating that wound infection is the surgeon's constant danger and also a protection from it must be obtained. His faithful devotees have modified the technic and rendered results more certain. His fame rests upon a safe foundation. Wherever surgery is practiced, his fundamental teachings are accepted as a primal law of procedure. The function of the various organs must be determined for the greater safety of the patient, to know if his vital energy is in a solvent state, and that the mortgage thereon may be assumed without too heavy risk. The answer to

these questions decides *when* to operate.

Based upon a careful knowledge of anatomy there must be added to it an equally careful knowledge of pathology.

I was for a long time assistant of Prof. J. B. S. Jackson, of Boston, considered by many the first authority in pathologic anatomy in America. Later, in Berlin, I was the special student of Prof. Virchow in 1869-70, and I have made, greatly to my profit, about a thousand post-mortem examinations. However, I soon learned in my abdominal surgery that the operation upon the living subject opened a new and most interesting chapter of anatomical knowledge. When the vital machinery is still at work it teaches many most profitable lessons of function and repair and opens the way for the salvation of many lives otherwise doomed.

Surgery of the Present War.

It is too early to pronounce with any degree of accuracy upon the permanent benefits to medical science, arising from the late European War. Much of the surgical work has been done of necessity under most disadvantageous conditions. The range of the artillery fire is so great that men wounded on the fighting line are often beyond immediate assistance. We have reason to be proud of the medical departments attendant upon all the forces engaged. Suitable surgical aid has been given to minor wounds whenever the soldier has been able to report for early treatment. Injuries have been of such an enormous number that the good results are surprising.

All penetrating wounds are regarded as infected; all foreign material as bits of clothing, small pieces of shell and bullets have been removed; more than ordinary care exercised to control bleeding. If such

service has been rendered within twelve hours wounds are generally closed with primary sutures and usually followed by aseptic repair. Compound fractures are converted into simple fractures and treated as such. An enthusiastic surgeon writes of this type of injury: "One stands in awe and wonder at results as he compares the present with the past; primary union without suppuration; only a lineal scar; no gauze packing or constant irrigation; pain minimized, followed by the peace of being let alone." How have these things come about? By the formation of a trust composed of the radiologist, the bacteriologist and the surgeon, all working harmoniously and constantly together.

Dr. Hugh Cabot, of Boston, who has recently returned from Europe, gave a most interesting address before the Massachusetts Medical Society, upon the lessons of surgery learned, of special value during the war. The later methods are specially by free incision and thoro cleansing of the wound with primary and delayed sutures. "During six weeks from August first to the middle of September, No. 22 General Hospital received 5,539 wounded and operated upon 2,047 (36 per cent.). Of these 2,047 operations, 933 cases were thought appropriate for suture and 741 were primarily sutured. It was further demonstrated that cases could be treated which were from 24 to 48 hours old with at least 84 successes. This was true in a series of over 700 cases; many of them were more than 48 hours old. In 479 cases, involving only soft parts, 410 (86 per cent.) were complete successes; in 184 cases involving bones and joints, 146 (79 per cent.) were complete successes. In the early period after injury the penetrating wounds of the knee joint are similarly treated. The

reports of other surgeons coincide with Dr. Cabot. Primary suturing has been successfully accomplished in over 80 per cent. of the cases operated upon within the first twelve hours; infection is mainly due to the streptococcus; the infected wound must be opened and treated immediately. Progress in surgical interference depends upon the knowledge of wound infection and of the means of rendering a wound aseptic.

The plaster splint has been adopted for the immobilization of fractures both simple and compound, finding a much wider use in the recent war than ever before. The profession is indebted to the late Louis A. Sayre, of New York, for this important addition to surgical appliances.

In important fractures where infection and suppuration are factors, splints should be fenestrated to allow free access to the wound, the edges are protected with collodion or some other substance to prevent absorption; melted paraffin serves very well. To change infected compound fractures into aseptic simple fractures at the outset, is to do away with one of the greatest dangers in war surgery. Compound fractures must be operated upon by the technic of primary, or delayed primary suture, at the latest, twelve hours after the casualty.

A plaster splint should be applied for a compound fracture of the leg; it may reach from the toes of the injured side quite to beneath the arm-pit. In such a splint, the bed-pan can be used and the patient transported with comfort to any distance. Thus treated both life and limb are usually saved.

The French surgeon, Lemaitre, in a series of 121 compound fractures of all bones (he annexes a list), including 51 compound fractures of the humerus and 26 of the femur, most difficult of war wounds

to treat, reports there is a complete cure of 91 per cent.; if we add partial failures which do not affect the treatment of fractures, we have 97 per cent. of cures; better than that for soft part wounds.

Medical as well as surgical victories should receive proper recognition. The military surgery of this war has proven as never before, not alone the dangers of infection but the marvelous results of treatment applied. I repeat, to change an infected compound fracture into an aseptic simple fracture, within eight to ten hours of the injury, means the mastery of one of the most serious problems confronting the surgeon in peace as well as war.

Sanitary science practically unknown half a century ago has made the tropical zone of the earth a safe home for the white man, and opened to him the vast store-houses of its wealth.

Our late Surgeon-General Gorgas eliminated yellow fever from Cuba. The Philippines and the Panama Zone are safely habitable. Under such supervision the Panama Canal has been completed for the commerce of the world.

Typhoid fever has been banished from the Army and it is the duty of the medical profession, in a similar way to protect the civil population.

Diphtheria is largely robbed of its terrors. The cause of tuberculosis has been discovered and its ravages lessened. The hook-worm-disease, for centuries an unknown and widely extended scourge, has been placed under control.

Dr. Richard Strong of Boston, now colonel U. S. A., has added valuable knowledge for the control of epidemic diseases, and has recently demonstrated that trench fever is one of a group of diseases trans-

mitted thru the agency of the louse, as the intermediate parasite.

Dr. Horsley, in a recent address upon the value of biologic principles in surgical practice closes as follows: "Real progress in surgery lies not so much in cultivating the art of surgery and in striving after mechanical dexterity as in the study of biologic principles that concern nutrition, metabolism, and repair of tissues and in the thoughtful application of these principles to every operation and to every method of surgical treatment."

The surgeon must not alone be a *scientist*, which includes a familiarity with the technic as outlined, to be carried out with the automatism of a well mastered ritual, an equal knowledge of the anatomy of the structures involved and their relationship; but to this should be added other almost equal acquirements, those of the *artisan* and the *artist*. *The work of the surgeon for good or ill has its finality at the single period of manipulative intervention.*

180 Commonwealth Avenue.

Origin of Pepsin.—Pavlovsky (*Semana Medica*, March 11, 1920) reports research which has apparently demonstrated the important share of the spleen in the formation of the gastric ferments, and that injections of spleen extract increase the quantity and improve the quality of the secretion in the stomach. Injections of fresh leucocytes and red corpuscles from the horse acted in the same way. All confirm the rôle of the spleen in normal digestion as well as in blood production, and sustain the principle that the secretion of an organ is perhaps the best stimulant to promote its secretory function. He gives the details of series of tests on dogs with a Pawlow gastric pouch, given an intramuscular injection of 25 c.c. of a 25 per cent. decoction of spleen tissue, the blood count recorded over long periods, and the units of gastric digestion.

AMERICA'S GIFT TO POLAND'S WOUNDED.

BY

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The Military Surgical Hospital which was established in Vilna, Poland, early in 1920, has been turned over to the University of Vilna as a gift of the American Red Cross.

The plan in establishing this hospital was to make it a permanent, fully equipped, modern hospital to be used solely for the operation and treatment of the Polish Army. The hospital was to be in charge of American medical personnel and was to function according to American methods.

I was appointed to establish this hospital and to act as chief surgeon. When I arrived in November of 1919 the City of Vilna presented a very dilapidated and moth-eaten appearance as a result of the successive siege, capture and occupation by the German, Russian and Bolshevik armies. The picturesque mountain scenery surrounding Vilna only accentuated the forlorn aspect of the city itself. Little remained of its former grandeur except here and there the great golden domes of the Russian mosques and glittering spires of cathedrals pointing skyward.

Lawlessness, hunger and crime reigned in the city. Destruction had followed in the wake of the armies. Homeless, half-naked women and children roamed the streets, hunger driven. Desperate men prowled at night. Hold-ups, robberies and murders were common nightly occurrences. Gunshots could be heard during all hours of the night in various parts of the city. An inadequate force of military police patrolled the streets at intervals, but seemed entirely unable to cope with the situation.

After inspecting some ten or twelve buildings a final selection was made of a very large, three-story structure, built around a court, which had formerly been used as a military training school for Russian officers. The place was vacant and deserted and had been stripped of everything that could be carried away, and all that remained had been destroyed except the walls and roof.

This place was large enough to accommodate an 800-bed hospital. The problem, however, of converting it into a hospital under the existing conditions was a very difficult one. The glass and frames for five hundred and sixty odd windows had to be procured and replaced. Many changes in the interior construction of the building were necessary. Doors had to be cut and rooms divided in various places. The entire place had to be replastered and all the walls calcimined or painted.

A complete lighting system had to be installed, including wiring and fixtures. The building had never had any plumbing so it was necessary to install a complete modern plumbing system for toilets, operating and sterilizing and preparation rooms, baths, wards, kitchens and laundry.

A complete kitchen, including stoves of the Russian tile type, had to be built in. A central heating plant was necessary and forty-nine large Russian tile heating stoves which had formerly supplied the building were all rebuilt and supplied with doors and grates of metal.

Complete modern washing, drying and ironing rooms were operated by a large steam tractor engine, which was procured from France, shipped to Vilna and installed. A delousing apparatus, after much effort, was obtained from the Austrian Army equipment and installed. A complete steam ster-

ilization outfit was obtained from the Red Cross supplies and from Berlin.

Much of the furniture and equipment for the wards, pharmacy, laboratory, kitchen and laundry had to be made by workmen at the hospital. Some of it was obtainable from Red Cross supplies.

All of this was a problem for an architect, aided by a corps of plumbers, carpenters and other skilled workmen. But there was no architect available and very few workmen of even the unskilled type to be found.

insurmountable difficulties. To obtain workmen from the half-starved, totally demoralized civilian population of Vilna was next to impossible. Scarcely any tools could be found for the workmen to use.

Since it was the purpose of this American hospital to care for only seriously wounded soldiers, including fractures, the question of fracture and orthopedic apparatus was a very important one. No such equipment was to be had from the supplies at the disposition of the Red Cross and since



The American Red Cross hospital at Vilna, Poland, which has recently been given to the University of Vilna, by the Red Cross. It was a military training school for Russian officers before Dr. F. W. Black turned it into an American hospital.

The writer, tho merely a surgeon, luckily had some knowledge of engineering and so for a time became plumber, carpenter, painter and steam-fitter, in turn as required, and finally after about three months of desperate effort was able to get the place converted into a modern, fully equipped hospital ready to function.

The question of procuring material in this desolate, stricken land with which to make all of these repairs presented almost

treatment of fractures by means other than plaster casts was practically unknown in Poland, of course no such apparatus was available from any source in that country. Again the Chief Surgeon's mechanical ability was tested in making models of Balkan frames, Blake, Thomas, Hodgins, Jones and various other types of splint, and all of the numerous kinds of suspension apparatus used and developed during the war in France on the western front. From these

models Polish workmen were able to make from wood and iron a complete supply of apparatus.

The Balkan frame with the complicated ropes, pulleys and weights of the suspension splint apparatus were a source of much curious interest on the part of both patients and Polish medical men, to whom they were a great novelty.

The staff of personnel consisted of an American chief surgeon, who acted also as superintendent, with one American assistant surgeon, the Polish Army captain, whose chief duty was to take care of the army paper work, and several young Polish doctors to act as ward surgeons, a pharmacist, an X-ray man and an expert laboratory man.

The chief nurse was Miss Edith Clendenning, of Pennsylvania, and the nursing staff consisted of about twenty carefully picked and especially trained American nurses, aided by about forty Polish nurses and a number of nurses' aids. The male personnel such as orderlies, litter bearers, clerks, kitchen, laundry, bathing and delousing workers were from the Polish Army Medical Corps and numbered about one hundred.

One of the greatest problems facing the Polish medical profession is the prevention of the development of typhus fever among the medical personnel, not only in purely typhus hospitals, but in general medical and surgical hospitals as well.

More than the ordinary danger to the development of typhus exists for the doctors and nurses of army hospitals, since the wounded soldiers coming in from the camps and the front are almost 100 per cent. infested with lice. In all the Polish hospitals which I inspected at various times the percentage of cases of typhus contracted by

the medical personnel from patients was very high.

The highest was in one of the hospitals in the City of Vilna. Here 60 per cent. of the personnel developed typhus with a mortality of about 30 per cent. This was a very serious problem and was rapidly bringing about a great shortage of doctors and nurses. Careful investigation led to the conclusion that the process of bathing and delousing of patients had been inadequate. Great effort was, therefore, put forth in the American hospital to overcome this difficulty.

Since it was found that typhus frequently developed in surgical cases after most rigid and thoro methods of bathing and delousing, I instituted a double clean-up system with an observation period of ten days to two weeks between each clean-up process. This necessitated many changes in the building so as to keep the admitting, bathing, delousing and observation department separate from the main hospital.

After much work and considerable expense the following arrangements were made: One entire wing with a separate entrance of its own was selected for this department. This wing, about three hundred and eighty feet in length by about sixty feet in width, was closed off from the remainder of the lower floor and from the floors above. A wide hallway running lengthwise separated a series of moderate-sized rooms all communicating with each other on one side from four large wards on the other side. The entire floor of the rooms and hallway of this wing was tiled and in very good condition and easy to keep clean.

The patients are admitted to a receiving office near the door, where all the record work incident to their admission is done by

army clerks. The patient then enters the adjoining room which is the barber shop. Here his hair is clipped very short and one of the various louse-killing solutions is rubbed thoroly into the scalp. From here the patient is taken into the next room where he is stripped of all his clothing and effects which are collected in a large individual bag and taken to the delousing room. The patient now goes to the surgical dressing room. Here a surgeon cleanses first the skin area around the wound with ether and afterwards places carefully and snugly over the wound a compress of gauze wet with one to twenty carbolic solution. The patient now passes on to the bath, thru which he is followed closely by the surgeon, whose special duty is to see that no soap or water enters the wound and reinfects it. (This point is frequently overlooked or left to some irresponsible and untrained attendant.)

The bath is fitted with tubs, showers and specially constructed bath tables, over which a movable shower-head plays. All casts are removed by the surgeon in charge before the patient enters the bath so that no lice hiding underneath may be overlooked. After the bath the patient enters the last room of the series and is clothed with clean pajamas and then taken across the hall to one of the large wards where he is treated both before and after operation for a period of ten days to two weeks, at the end of which period if no typhus or other infectious disease has developed he is again passed rigidly thru the clean-up process and then enters the main part of the hospital.

As far as possible the surgeon, nurses and other personnel on duty in the admitting and observation department are typhus immunes. As an extra precaution they all wear the specially constructed typhus gown

and gloves at all times. As a result of this system no typhus developed among the patients after admission to the main hospital, and up to date none has developed among the hospital personnel.

The first case which presented itself for operation when the hospital was opened was one referred by a Polish surgeon of Vilna. The case was a year-old, gunshot fracture, involving both bones of the lower leg, followed by osteomyelitis. The case had been passed from one surgeon to another, each of whom had performed some operation which in all cases had been unsuccessful. A great deal of curiosity and a not too kindly interest were apparent among the Polish medical men of the neighborhood, consequently this choice case was referred to me as the surgeon of the new American hospital. One little point which was carelessly, or perhaps carefully, omitted when the history was submitted was the fact that the man was a "bleeder." However, a sequestrectomy was performed and a large area of diseased bone removed which involved the central canal of the tibia for a distance of 8 or 9 cm. downward from the point of fracture. The fact that the patient was a "bleeder" transformed this simple operation into the blood-clot operation of Bier.

Kindly Providence decreed that this operation which was the fifth on that particular case prove a success, much to the surprise of everyone and particularly the surgeon. The bleeding which proved somewhat troublesome was finally checked by the use of serum. At any rate, it stopped after the serum was used.

For all cases admitted for operation and treatment the usual methods of war surgery were employed. Practically all wounds were excised. The primary closure method

was employed in suitable cases. Certain compound fractures were converted into simple fractures. The various suspension methods were generally employed in treating fractures. Antiseptic solutions were used very sparingly in the ward dressings after operation. Lysol, saline, hypertonic, hypotonic and normal, Dakin's solution and Dichloramine-T were the solutions chiefly used.

Ether, of which there was an abundant supply, was used to cleanse the skin area surrounding wounds in the daily dressing. All cases were dressed in bed. A completely fitted dressing carriage was used in each ward, carrying all instruments, solutions and dressings employed. It was fitted with a sterilizer and a large tank of lysol solution with a drip pan. Here the surgeon washed his gloved hands under a tap between each dressing. The dressings were done entirely with instruments. Every precaution in addition to the double clean-up system, before mentioned, was taken to prevent the development of typhus.

One point upon which considerable stress was laid was that of increasing the body fluids of all patients as much as possible before and following operations. This appears to me to be of considerable importance and especially indicated in war wounded. Special attention was always given to the prevention of reinfection of wounds in the bath.

It is not possible to give case histories in this short article, but I might add that I performed on an average of six major operations each day. The patients came in regularly so that all of the 800 beds were kept filled. When I left Vilna in June the American Red Cross personnel were helping the Polish doctors "carry on."

THE ECONOMICS OF HEALTH.

BY

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Economics may be defined as "The science that treats of the development of natural resources, or the production, preservation, and distribution of wealth and of the means and methods of living well, for the State, the family, and the individual." Thus defined, it is patent that health in its positive phase constitutes an asset, and in its negative phase, ill health, exists as a liability. It is similarly evident that the possession of health in a community may add to its wealth, and the absence of it increase its poverty. From another point of view, the production, preservation and distribution of wealth in a community may be responsible for the existence of disease or for the advancement of public health and welfare. Under conditions as they exist to day, much of the origin of unhealthful modes of living is deeply enmeshed in the problems of economics.

According to Warren and Lydenstricker, the economic factors affecting health are: (1) Occupational hazards and diseases; (2) irregularity of employment; (3) unhealthful conditions of living; (4) employment of women under modern conditions, especially married women; (5) economic disadvantages as a result of low wages and insufficient annual income. It is difficult to measure separately these various factors. Health, having been hitherto regarded as more or less intangible, cannot be properly estimated in terms of dollars and cents. The means at our disposal for computing the value of physical and mental soundness depend upon computations as to the cost to individuals, families, and the community arising from

the loss of health. For example, at an estimated daily wage loss of two dollars, and a cost of medical attention of one dollar per day, with an average daily amount of illness averaging at nine days, the cost to thirty million workers would be \$800,000,000. This, of course, leaves out of consideration the actual cost of death, the wage loss due to decreased efficiency, the financial disabilities transmuted into familial sufferings, not to mention the costs of labor turnover, and the inherent losses due to decreased production.

It is patent that the costs of sickness may be in terms of money, or in terms of working efficiency, with distribution to individuals, employers, families, industry as a whole, and to the community.

The United States Mortality Statistics of 1916, based upon figures for 70.2 per cent. of the population may be tabulated as follows: The total deaths from all causes in the registration area were 1,001,921, a rate of 14 per thousand population.

Deaths	under	one	year,	164,660
"	"	5	years,	234,081
"	20	to	24	35,357
"	30	to	34	39,257
"	70	to	74	70,306

One recognizes at once that practically four-tenths of the mortality is under the age of five years, representing a tremendous wastage in infantile and youthful lives, decreasing the vital assets as represented by potential workers of the future. Carrying out the computation for the entire United States on a basis of a population of 102,017,312, at the rate of 14 per thousand, the total deaths for 1916 would be 1,428,242. The true death rate is undoubtedly higher, as mortality statistics are not complete and economists as Fisher and Wilcox have not hesitated to use 18 as a

minimum figure for the mortality rate.

With a high mortality of this character, one must recognize at once how much greater are the figures for morbidity, and what large expenditures are involved in the securing of medical services, drugs, appliances, and nursing, in addition to the wage loss to the individual. In the words of an opponent of social insurance, W. Gale Curtis, "Let us admit that the figures of loss are reasonably accurate, being \$18 per wage earner per year, or a total loss of \$600,000,000 thru sickness annually; altho we admit that the loss should be increased by 25 per cent. because wages have increased that much since estimated as made." The basis of this estimation was on an annual sickness experience of nine days.

In the 18th Annual Report of the United States Commissioner of Labor, the average annual expenditure for sickness and death per family was estimated at \$27 per family. On the basis of 27,000,000 families in the

A	rate	of	164.3	per	thousand	deaths.
"	"	"	233.6	"	"	"
"	"	"	35.3	"	"	"
"	"	"	39.2	"	"	"
"	"	"	70.2	"	"	"

United States in 1919, this loss would be \$709,000,000. This, however, is too conservative, considering that there had been probably more than 50 per cent. advance all along the line since the estimate was made in 1901. This would give a figure, conservatively, of \$1,500,000,000.

It is patent that in the charge for medical attention and drugs, etc., wage earners may be able to care for their families in brief illness, but may find exceeding difficulty in tiding over situations where specialists must be seen or where illness is prolonged. This is well exhibited in the contrast made by

Janet Thornton, *Modern Hospital*, April 1919. (1) Feeding a baby three months old, involving supervision for 13 months, during which time an abscess of the neck required surgical treatment, as did a double otitis media, would have cost in private practice (relative charges of treatment on the scale of Boston experience) \$89, as opposed to \$4.20 paid to a dispensary. (2) An adult diabetic, under private care with four weeks spent in a hospital at a cost of \$60, would have cost \$178. Similar treatment secured thru a pay clinic would have amounted to \$84.50, while under dispensary conditions the complete charge would have been \$64.95. (3) The treatment of a carbuncle for 38 days, as charged in private practice would have cost \$25; in a pay clinic, \$8; in a dispensary 95 cents. (4) The cost for refraction and glasses would have been privately, \$16; pay clinic, \$5.50; dispensary, \$4.35. Taking more serious conditions from the standpoint of prolonged treatment, the treatment of acute gonorrhea in the male covering an average of 175 days would have amounted to \$195, private practice; \$59.50 pay clinic; \$48.25 dispensary. Syphilis care during first year, private practice, \$260; pay clinic, \$52; dispensary, \$42. These contrasts represent not merely variations in the money costs for medical services, drugs, and appliances, but indicate also weaknesses in our system of medical practice which are partially responsible for the persistence of many individuals in the community receiving inadequate medical treatment and because of being uncured, serving as sources of contagion to the community at large. These losses are most significant because, under the system in vogue, considerable of the money expended has been unsatisfactory expenditure and represents not merely

a comparative waste of money, but also a continuing cause for waste in energy and vitality.

In the Rochester Sickness Survey, with a rate of two dollars wage loss per day, the annual wage loss was estimated to be \$1,288,900. At a cost rate of \$1.50 for six out of seven days' disability, the country's wage loss every year is more than \$366,000,000. (American Association of Labor Legislation.) According to Fisher, in his report of National Vitality, there are always about three million persons sick in the United States, of whom one million are in the working period of life, and three-quarters of them are actually workers, who lose thru sickness an annual average wage of \$700. He estimates, therefore, that the wage loss from illness is more than \$500,000,000. The cost of medicines, attendants, special foods, etc., he approximates as costing another \$500,000,000, making a total annual loss of \$1,000,000,000. In these days when thrift is urged, this waste is worthy of notice, particularly, as it may be conservatively assumed that one-half of the sickness responsible for the loss is preventable. The cost of prevention is frequently very small, as, for example, the reduction of working capacity because of hookworm infection is 25 to 50 per cent., but the disease can be prevented or, indeed, cured with an average per capita cost of less than one dollar.

As illustrative of the cost of sickness to employers, permit me to quote from the report of Doctor John B. McAlister, (*Medical Record*, March 29, 1919) discussing health insurance as a state policy. "Sickness produced a problem between five and seven times as great as that caused by industrial accidents. In 1916, 3,025,375 working days were lost in Pennsylvania

thru accidents, while approximately 16,800,000 working days were lost on account of illness. More than 385,000 employees in the State were constantly suffering from illness, and the average loss of working time to employees in the State was at least six days each year because of sickness. At the nominal rate of two dollars per day, the wage loss to employees because of illness was thus at least \$33,000,000. The average cost of medical care for every employee's family was between \$30 and \$50 per year." Now notice, in addition, one effect of this upon production, the subject in which the employer and the community have hitherto had greater interest. "During the influenza epidemic, anthracite coal production dropped behind 500,000 tons in a few days." Pennsylvania spends over \$6,000,000 yearly for the treatment of sickness and in addition \$4,000,000 was spent for the maintenance of institutions for the care of defectives, due partly to the neglect of sickness. The number of beds available for the medical care of wage earners was 3.1 per population. In a single year, nearly 2,000,000 days of free hospital treatment were given, and almost 900,000 persons patronized charity dispensaries.

Such figures as these point out conclusively some of the costs of sickness as they involve employers, which are added to by the monetary benefits actually paid out particularly because of accidents. Fifty-two firms in New York State reported (1907) that they actually paid out 55.2 cents per hundred dollars pay-roll for accidents. This, of course, represents a dead loss in addition to the lowering of the productivity of their plants and the costs incidental, to labor turnover, and readjustments.

In the *Illinois Health News* of January,

1919 is an excellent computation of the financial costs of communicable diseases to that State. The estimated costs of illness and death from communicable diseases equal \$24.67 per capita in the State. The average financial cost totaled 6.01 per cent. of the assessed property valuation in each county. The Illinois population was estimated at 6,276,364, with a general death rate of 14.2. Its property was valued at \$2,577,990,810, while the total loss from the number of preventable diseases was \$154,881,685. Assuming the ratio for preventable diseases and the general death rate for the State of Illinois to apply to the entire United States, the total loss would assume the high figures of \$2,583,000,000. The diseases which were considered in connection with the computation in the State of Illinois covered only typhoid, malaria, smallpox, measles, scarlet fever, whooping-cough, diphtheria, meningitis, poliomyelitis, tuberculosis and pneumonia.

The basis of their calculation includes the following items: (1) Cost of funerals, placed at \$100 per adult, and \$50 for children; (2) value of life lost at \$3,000 for an adult, and \$500 for a child; (3) cost of care of those who recover, including medical service, varying with the nature and the duration of the disease; (4) loss of wages for adults. The form of computation may be quoted in total as follows:

Disease	Funeral	Life Value	Cases per each		
			No.	Care	Time
Typhoid	\$100	\$3,000	10	\$ 75	\$ 125
Malaria	100	3,000	200	10	150
Smallpox	100	3,000	—	20	75
Measles	50	500	50	10	—
Scarlet fever	50	500	30	25	—
Whooping-cough .	50	500	60	10	—
Diphtheria	50	500	10	25	—
Meningitis	75	1,500	4	25	35
Poliomyelitis	50	500	5	50	—
Tuberculosis	100	3,000	5	600	1,400
Pneumonia	100	3,000	4	75	60

It cannot be denied that the cost of pre-

ventable diseases is to a certain extent a measure of the economic efficiency of a community, despite the fact that occasional epidemics seem to burst asunder all economic laws and may set at an end the most careful efforts at efficient public health administration. As an index, however, of the cost of preventable diseases, for surely these diseases belong to this category, tabulations of this character are permissible, and should

age of fifteen years; of malaria, only 962 are under the age of fifteen, while of the deaths from diphtheria, 3,880 are over the age of fifteen years, 693 from measles and 344 from scarlet fever. For this reason it is patent that it is not alone fair, but conservative to carry the life values among the diseases enumerated for application to the entire mortality represented in the figures of 1916.

Disease	Number of deaths 1916 U. S. registration area	Cases of disease estimated	Cost of funeral and life value	Cost of care and time loss
Typhoid	9,510	95,100	\$ 29,081,000	\$ 19,020,000
Malaria	2,175	435,000	6,742,500	69,600,000
Smallpox	114		353,400	
Measles	7,947	397,350	4,370,850	3,973,500
Scarlet fever	2,355	70,650	1,295,250	1,766,250
Whooping-cough	7,284	437,040	4,006,200	4,370,400
Diphtheria	10,367	103,670	5,701,850	2,591,750
Meningitis	5,091	20,364	8,018,325	1,221,840
Tuberculosis	101,326	506,630	314,110,600	1,013,260,000
Pneumonia	63,229	252,916	196,009,900	34,143,660
Total	209,396	2,318,710	\$569,689,875	\$1,149,947,400

play a reasonable part in the general publicity of public health administrators in their efforts to present the facts pertaining to illness and the importance of securing appropriations to combat them to a community which is more accustomed to think in terms of dollars and cents than in terms of personal welfare, physical comfort, or standards of hygienic living.

I have applied the calculations, as outlined in the report mentioned in Illinois, to conditions in the United States and present the following tabulation, with which this explanation must be made. It may be urged that there is an injustice in carrying the life value for typhoid at \$3,000 as failing to take into consideration the reduced figures that would apply to deaths of children from this cause. As a matter of fact, the figures balance fairly well for this reason. Out of the total number of deaths from typhoid fever only 2,002 are under the

The total of these two items of cost is \$1,719,637,275. It is to be observed that this estimation is based upon 209,396 deaths, the total number of deaths from all causes in the registration area for 1916 being 1,001,921, or approximately only 20 per cent. of the total. It might be unfair to carry this calculation and ratio over the entire mortality, but for the sake of illustration it is obvious that if this were done the total cost of deaths would be \$2,848,449,370, while the sickness cost would be \$5,749,837,000, an aggregate for the two items amounting to approximately \$8,500,000,000. It must be further recalled that the registration figures merely account for the mortality in 70.2 per cent. of the total population of the United States.

If we consider the Illinois figure of \$24.67 per capita as the cost of illness and death from communicable diseases alone, the same figure applied on the basis of 100,000,000

population for the country would amount to \$2,467,000,000. If one assumes that one-half of the sickness and mortality were preventable on the basis of our limited compilation for the communicable diseases, the loss that could be obviated would amount to \$859,818,637. High as these figures may seem, it is interesting to note that they do not appear to be exaggerated according to figures developed by Fisher and others. Farr estimated the net economic value of persons at various ages by discounting the chance of future earnings, after subtracting the estimated cost of maintenance. Assuming only three-quarters of those at working age are actually earners of money or housekeepers, the net economic values rise from \$90 in the first year to \$4,200 at the age of thirty, and then declines. The estimate of Fisher assumed \$700 per year as the average earnings in middle life, and applying Farr's principles to the existent population, the average value of a person in the United States (1910) was \$2,900, and the average value of lives sacrificed by preventable diseases was \$1,700. Applying these values to a population of 105,000,000 he arrived at a total value of \$305,000,000,000. Estimating 43 per cent. of deaths as preventable, the annual loss of earnings from preventable causes approximated \$1,066,000,000.

Fisher stated: "The average economic values of the lives now sacrificed by preventable deaths, using the age distribution of deaths and percentages of preventability is \$1,700 each." On this basis the loss of economic value thru death for 1,428,242 deaths during 1916 (mortality figure weighted for entire country) equals \$2,427,911,400, which, again, is a fair check against the computation above on the basis of the Illinois method, so as to apply to the entire

mortality rate, unweighted for that portion of the population not covered by registration.

Locke and Floyd, of Boston, from a study of 500 males during a period of five years, in the Out-patient Department of the Boston Tuberculosis Hospital estimated the capitalized value of earnings cut off by death for 244 men as high as \$6,144. However, the lower figures are eminently satisfactory as being particularly conservative. The ratio of preventability of disease was computed by Fisher at 42.3 per cent.

Another marked effect in a social way may be imagined on the estimation that the death of one person in a family must necessarily affect to some extent the economic status of every member of the family, either actually or potentially. With 1,022,000 deaths in the aggregate in the registration area for 1916, with an average of four surviving members for each death, the total number of persons affected by these deaths would be 4,008,000. Under these circumstances the question of postponability of sickness or death is of considerable significance. From Fisher's figures we learn of an average postponability of 42.3 per cent., the average length of time of postponement, which really is the expectation of life at the median age, amounts to 14.06 years.

	Median age at death	Average length of post-poning	Length of post-poning
Diseases of infancy	1	47%	4.40 yrs.
Diseases of childhood	2 to 8	67%	1.51 yrs.
Diseases of middle life	23 to 49	49%	6.82 yrs.
Diseases of late life	52 to 83	28%	1.33 yrs.
All causes		42.3%	14.06 yrs.

According to the National Association of Manufacturers, quoted in the *Cost of Living in Massachusetts*, 500,000 workers are annually incapacitated or killed, half of whom might be saved. The cost to the country from this unnecessary loss of life

was estimated at \$125,000,000. In Massachusetts the estimate offered was that 600,000 died annually of preventable diseases and 4,000,000 suffered from sickness, one-half of which is preventable. The total waste, excluding nursing and death costs, was said to be \$3,000,000,000 per year. In the Massachusetts experience, incidentally, four per cent. of the population was said to be constantly on the sick list, making an average of 13 days per capita per annum for sickness.

That these figures, large as they are, are not inordinate, may be judged from special estimations which have been made regarding specific diseases as, for example: Kober approximated the annual cost of typhoid fever in the United States at \$350,000,000; L. O. Howard, \$100,000,000 for malaria; C. L. Dana, for insane and feeble-minded, \$85,000,000; Fisher, for tuberculosis, \$1,000,000,000. G. M. Gould in 1901 alleged that sickness and death cost the United States an annual loss of \$3,000,000,000.

The National Conference on Industrial Diseases, in 1910, figured that there was an annual average loss of eight and one-half days per worker, and that three per cent. were constantly disabled. The Metropolitan Life Insurance Company's surveys gave an average of 2.02 per cent. sick and 1.88 per cent. unable to work. In the Rochester survey, 2.31 per cent. were found to be sick, and 1.92 per cent. unable to work, and 50 per cent. of those sick had been incapacitated one year or more, while 59.3 per cent. of those unable to work had been sick 26 weeks or more. The annual wage loss based upon 8.46 per cent. sickness per year (6.9 working days) for 40,000,000 workers would amount from \$500,000,000 to \$750,000,000.

Defects and disabilities decrease produc-

tive power and may result in disabling diseases. Feeble-mindedness is present to the extent to four per thousand of the general population. Their cost to the community is evidenced by the fact that they comprise 25 to 50 per cent. of the population of our prisons and jails, and 15 to 30 per cent. of the inmates of almshouses. A single disease like gonorrhea is responsible for six to ten thousand cases of blindness annually, with the resultant high cost to the community. In connection with these figures one must bear in mind the testimony of Colonel James Bordley, of the Red Cross Institute for the Blind, at Baltimore, who states that the civilian blind (85,000) are principally dependent upon the friends of the state. In 100 cities studied, 43 per cent. of the professional beggars are blind. Economically, the handicap is revealed in the statement that the average wage of conscientious and willing blind working men is about four dollars per week, while the women earn about one-half as much.

The costs to the community in hospitals, homes and institutions must not be overlooked. Forty-six hospitals in New York in the Union Hospital Fund, 1913 and 1914 cared for 69,474 patients (57 per cent. of the total) who paid nothing for treatment: 25,168 (21 per cent.) were part paying. Of 2,183,538 days of treatment, 60 per cent. were totally free and 13 per cent. were paid for by the city. According to Horatio Pollack, Statistician New York State Hospital Commission, in *Mental Hygiene*, January, 1919, there were on January 1, 1918, 239,820 insane patients in the United States institutions; 11,944 epileptics and 39,381 feeble-minded. The cost for care of the insane during 1917 was \$4,926,888.88, or an average per capita cost of \$207.28, based on an average daily population of 211,916.

These figures, be it remembered, are totally exclusive of those in private institutions.

Assuming that estimations by Van Sickle, Witmer and Ayres are correct in that four per cent. of our public school children are feeble-minded, there are 800,000 feeble-minded children in the United States, altho probably 100,000 are generally mentally deficient, and should be treated in institutions instead of public schools. State institutions for deaf and dumb require five to seven years of training at a per capita cost of \$325 per annum. To support a feeble-minded individual in a state institution costs about \$161.20 per year. The terrific cost of education for the deaf and dumb, the blind, the crippled and mental defectives is a communal expense and a burden which must be calculated in order to appreciate the true effects of incapacity upon national economics and efficiency.

Dependency and charities are properly considered community costs. According to the Ohio Health and Old Age Insurance Commission, 35.50 per cent. of dependency seeking relief is due to illness. Thirty per cent. of the inmates of Ohio infirmaries are there because of dependency; 40 per cent. of the inmates of private institutions for relief are due to dependency among the aged. Thirty per cent. to 50 per cent. of chattel loans arise from sickness. The New York Charity Organization has reported that 25 per cent. of destitution is caused by a lack of employment, not due to causes controllable by employees. The New York Association for Improving the Condition of the Poor, in 1908 stated that 90 per cent. of the applicants for relief came thru no fault of their own; 29.3 per cent. appealed because of sickness; $2\frac{2}{3}$ per cent. because of accidents; $1\frac{1}{3}$ per cent. because of death; 6 per cent. because of intem-

perance; 35.5 per cent. appealed because of the loss or lack of wages; 18 per cent. on account of insufficient wages or work; 2 per cent. because of old age, and $2\frac{2}{3}$ per cent. only because of shiftlessness and inefficiency. This immediately suggests a relation of sickness, accident and loss of wages as factors in dependency. According to the United States Immigration Commission in 31,000 cases of charitable relief, 21 per cent. was due to illness of the family bread winner, and 18 per cent. more due to sickness of other members of the family. That there is a marked relation between income and mortality, involving, of course, numerous other factors, is well known. Levasseur, discussing the mortality in various sections of Paris, in the days before the war, stated that 31.3 per thousand population was the annual mortality in the poorer sections, 16.2 in the sections occupied by the middle class, and 13.4 for the richest sections.

The burden of sickness may be partially distributed in various ways thru churches, lodges, clubs, unions and ordinary insurance. It is difficult to obtain complete figures illustrative of these costs. Examples, however, will suffice. The report of the Ohio Health and Old Age Insurance Commission estimates that fraternal orders paid to their members as sickness benefits in 1917 approximately \$1,500,000; trade unions approximately \$250,000; established funds, \$400,000; commercial accident and health insurance companies received \$2,877,377 in premiums and paid \$1,211,315 in losses; commercial health insurance companies received \$417,149 in premiums and paid \$177,950 in losses. "Roughly speaking, 35 per cent. of the workers have sickness insurance for about 10 per cent. to 15 per cent. of their loss." Industrial insurance

companies in Ohio received \$12,164,463 in 1917 and the amount paid out in losses was \$3,455,059, an amount that is practically chargeable to cost of burial.

When one considers the economics of health in terms of working efficiency, one must consider decreased power, lowered skill, decreased schooling and lessened opportunity as affecting not merely individuals, but national welfare. The costs to family are reflected in lowered vitality and decreased productivity, with a lessened income, or the gain of new income thru the sacrifice of family standards and weakened family life. Industry reflects the effects thru diminished production, increase of labor turnover and a lowering of industrial morale. The community necessarily suffers thru the decreased independence of individual units, a lowered average of independence and such diminished effectiveness as is revealed in the consideration of various military problems.

The ratio of preventability of illness during childhood is 67 per cent. The average per capita cost for giving children elementary school education is about \$23. The median number of years at school is five. Dr. Strayer estimated the total days lost thru absence during 1910 at 385,135.850 days. Illness in one form or another, not including physical defects, causes nearly 25 per cent. of school absence, and is accountable for 10 per cent. to 15 per cent. of the elimination; 10 per cent. to 12 per cent. of non-promotion; and at least 10 per cent. of retardation. One may add to this that physical defects are responsible in chief for 5 per cent. elimination, 6 per cent. non-promotion, 7 per cent. retardation. About 65,000 enrolled school children die annually, 40,000 of whom die of preventable causes. It is difficult to estimate lowered standards

of schooling, arising from elimination, non-promotion and retardation, not to mention extra cost of reteaching in the same grade those who should be receiving instruction in a higher class. Similarly there is a total loss of the investment in education already given to those who succumb to preventable diseases.

Various disability values must be chargeable to accidents and, as a basis of estimation, one may take the values provided by various terms of accident insurance. Insanity, loss of both hands or feet, complete blindness, incurable tuberculosis, give full financial benefits. Loss of one eye, 33 per cent.; total loss of hearing, 50 per cent.; loss of hands, 20 per cent. to 30 per cent.; deaf in one ear, 15 per cent.; almost total loss of teeth, 20 per cent.; loss of index fingers, 15 per cent.; other fingers, 10 per cent.; thumb, 30 per cent.; loss of one hand, 70 per cent.; loss of one foot, 60 per cent.; excision of tongue, 60 per cent.; loss of big toe, 5 per cent.; other toes, $2\frac{1}{2}$ per cent. These are ratings made upon theoretic losses in working power.

The loss in working efficiency falls upon the family of the employed not merely in the direct loss of time at working due to illness, but thru the decreased productivity during the working period immediately following upon convalescence. In the urge to regain gainful employment the disease processes do not have an opportunity to subside in entirety, and too frequently workers return to employment fatigued, anemic and enervated and, as a result, are less able to continue at their normal working capacity. In the Rochester Sickness Survey, of males 15 years of age or over, 23.3 per cent. were found to be ill at one time, while of the females, 25.7 per cent. were ill. This suggests an average disability of 8.5

days for men and 9.4 days for women. It is patent that these disabilities on the part of the wage earners throw increased responsibility for care upon other members of the household, increase their anxiety and stress, while at the same time, because of wage loss, partial or complete, there is diminished return for foods and the family vitality is subject to drain because of expenditures in time, energy and money incidental to the relief of illness. Lowered vitality for families, involving, as it does, malnutrition and greater susceptibility to diseases of various kinds, is of the utmost importance.

The reduction of efficiency in industry is evidenced in numerous ways. L. R. Palmer, in the *Annals of the American Academy of Political and Social Science*, November, 1918, stated that a casualty list bearing 650 names of workers injured in industry in Pennsylvania is received daily at the Department of Labor and Industry. These lists have gone as high as 1,100 and names are reported only when workers are killed or disabled more than two days. For the two and one-half years ending July 1, 1918, 577,053 injuries were reported including 7,575 fatal accidents. This is merely illustrative of what is occurring thruout the United States, particularly in those states where industry is of paramount importance. The obligation to reduce the number of fatalities and disabilities to an irreducible minimum is obvious. At the First National Conference of Industrial Diseases, 1910, there were reported 13,400,000 cases of sickness among 33,500,000 men, women and children engaged in gainful occupations, representing 284,750,000 days of sickness and \$366,107,145 loss in wages. This means that more than one-third of all employed persons are ill on an average for almost one

month each year. While these figures are not presented as having direct relations to industry, it is apparent that their effect upon industry must be considerable. As a single extreme illustration of the possible effect, let us consider the problem of labor turnover. Alice Hamilton has pointed out that in the white lead establishments of Illinois, where no protective work was employed, they had to replace their 80 workmen every two and one-half months. Here the loss of workers involves not merely the cost of labor turnover *per se*, but the markedly decreased efficiency naturally involved in the process of constantly instructing new laborers. One factory had to engage 300 men yearly to maintain a working force of 50, and in another factory 20 per cent. to 40 per cent. dropped out each pay day from lead poisoning. Such conditions as these are, of course, extreme, but none the less serve to indicate the relation to labor turnover and to the diminished production that must ensue because of diseases and accidents in industry.

P. F. Brissenden reported the labor turnover of a number of establishments in the San Francisco Bay Region for the year ending June 1, 1918, to be 233 per cent, and of the separations from service only 7 per cent. were due to discharge. This enormous percentage is, of course, not to be regarded as due to sickness, but certainly plays some part both as cause and effect in affecting the economics of health.

In measuring the cost to the community, one grasps at once the seriousness of the decreased independence of the community by reason of disease, whether due to decreased mental capacity, because of lessened educational opportunities, or to greater dependency from inherited or acquired defect or handicap. A lowered average of

independence, or an increase of dependency follows in the wake of ill health, acute or chronic.

A marked decrease in the vital assets of the community results when persons die from diseases of a preventable character. Recognizedly, all persons must die, but the loss of life at an age that easily might have been postponed represents waste and extravagance in human resources. As quoted previously, 14.06 years might be added to the average life time of Americans if preventable deaths were reduced to an irreducible minimum. The advantage to the community of prophylactic work is well exemplified in a statement attributable to General Gorgas. "In the entire army, numbering over 1,500,000 men at the end of December, 1917, there had been during the year 242 admissions to hospitals on account of typhoid fever, with eighteen deaths. During the corresponding period in 1861, when the Northern Army was being mobilized, there were about 9,500 cases of typhoid fever, with less than one-quarter of the strength of the present army, with about 1,800 deaths." Had the Civil War rate applied in 1917 there would have been 38,000 cases and 7,200 deaths. These results were due to antityphoid vaccination. The importance of lives saved, particularly at a time of military emergency, is inestimable.

The effects of our attitude of indifference, ignorance or neglect regarding the welfare of the growing generation is evidenced in The Second Report of Provost Marshal General Crowder on the Selective Service Act. During the period of December 15, 1917, to September 11, 1918, 3,208,446 were physically examined. Only 70.41 per cent. were classified as A, fully qualified; 2.76 per cent. were placed in group B, with

remediable handicaps; 10.58 per cent. were placed in group C for limited service; while 16.25 per cent. were completely disqualified physically. This loss of man-power, altho herein considered with relation to military necessities, indicates the communal wastage which has been tolerated in the conduct of national welfare.

(To be continued.)

PROGRESS OF INDUSTRIAL SANITATION.

BY

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The initial sentence of many a paragraph in the early chapters of Xenophon's *Anabasis* is an unvaried and monotonous iteration of the self-same words. "Thence he advances" (*Enteuthen exelaunei*). Cyrus is ever going forward. Last night's bivouac is this morning's point of departure. An army of 10,000 Greeks accompanied him, but the historian of the expedition chronicles the onward movement as if the leader were the only actor in it.

The recurrent phrase is peculiarly applicable to the individual initiative which characterizes scientific medical progress in the past. In all ages it has advanced with each tomorrow to "fresh woods and pastures new," under the lead of some adventurous explorer. So Harvey with step elate goes forth to his epochal discovery; Jenner advances single-handed to the conquest of smallpox; Pasteur conquers rabies; Laveran disarms malaria; Finlay routes yellow fever; Koch defeats tuberculosis; Klebs and Loeffler vanquish diphtheria. All these achievements are the trophies of individual scouts in the service of humanity.

There is a significant change in Xenophon's phraseology after the death of Cyrus. The annalist now writes, thence *they* proceeded, etc. The march is not halted by the loss of the leader. The army advances as before; but now its progress is recorded as the movement of a vast body of soldiers.

The analogy holds good in respect to the itinerary of medical progress in the 20th century. No longer is it the story of individual exploits, but a record of development and co-operative action along the entire battlefield. Personal leadership wanes, while the mass movement of an innumerable host of trained scientific allies waxes strong.

Were an expert sanitarian summoned to testify in a statistical Court and required to answer the hypothetical question, "What significance or value, if any, attaches to the affidavits filed with this tribunal concerning the benefits of industrial hygiene?" it is easy to anticipate the nature of the reply.

"May it please the Court," he might say, "the evidence in question is definite and unequivocal." It shows that the application of the laws of health to industrial conditions is of unquestionable utility. Let me invite attention to some of the testimony on this point. It is convincing to any candid mind. Choosing at random from the mass of evidence, I will cite only the well-attested fact that, in recent years, sanitation of the workshop has reduced the number of arsenic poisonings in the trades so that they are now relatively rare and unimportant.

Not long ago, however, Blyth wrote in his work on poisons, "Arsenic causes so many deaths both in men and cattle that it comes under the notice of the chemist more frequently than any other poison."

At the International Congress of Hygiene held in Paris in 1880, Gubler and Napias made a report in which were tabulated twenty-three arsenic-using industries; and in 1892 Layet published a table of twenty-seven trades in which workmen were exposed to the risk of arsenic poisoning. This number has been increased by later research, so that forty-four distinct trades are now classed as dangerous to the workman because in every one of them he is subject to potential arsenicism.

Since these lists were compiled, however, improved processes of manufacture have minimized occupational hazards; and, at the instance of sanitary officers, measures have been adopted that safeguard workers against the toxic conditions to which they were formerly exposed. Substitutes for the arsenical compounds have quite generally come into use of late in the industries, to a considerable extent precluding the risks of poisoning.

For example, fuchsin is no longer prepared, as formerly, with arsenic. Innocuous preparations of tannin are now used as a mordant for colors derived from coal tar, replacing arsenical mordants. In the manufacture of hydrogen the rule of "Safety First" obtains, and pure sulphuric acid, without a trace of arsenic in it, is employed in the generation of this gas, instead of the impure acid formerly used which was impregnated with arsenious admixtures.

Lime has superseded arsenic for depilating hides in tanneries. In this manufacture of wall paper arsenical colors have been generally discarded on account of the numerous poisonings resulting from their use, and aniline colors are now utilized in this industry.

For many years aniline colors have been substituted for arsenic compounds in dyeing

establishments and in the manufacture of artificial flowers.

Notwithstanding the disuse of arsenical compounds and the introduction of innocuous substitutes in many industrial processes, reports of occupational arsenic poisonings appear rather frequently in the periodical literature of medicine. In the *Jour. A. M. A.* of December 28, 1918, Samuel Ayers, Jr., describes the symptoms, laboratory findings and points of differential diagnosis in a case of "Chronic Arsenic Poisoning On a Farm."

Apparently there were two sources of poisoning in this instance. One was an arsenical spray used on trees and potato plants; the other, a mixture of Paris green open to the air and giving off emanations in the patient's domicile. The wall paper in the dwelling which was found to contain arsenic may have been an accessory etiologic factor.

Hygienic improvement in the industries referred to is fairly typical of the sanitary advancement made in other branches of manufacture within a relatively brief period of time. It is true, however, that harmless or non-toxic substances have not yet wholly supplanted the arsenicals. Arsenic compounds still constitute a menace to the worker's health in glass works, oilcloth factories and paint shops, in manufactories of Paris green and of rubber goods. But the risks of occupational arsenic poisoning have progressively diminished in number and degree within the last decade of years, and it is probable that technical improvements in processes of production will still further reduce the danger.

Of questionable advantage, however, as a measure of prophylaxis, is the substitution of aniline for arsenic colors in the dyeing of textiles, since aniline itself

produces in susceptible people effects incomparatively more injurious than those occasioned by arsenic. "Of what use is it to steer clear of Scylla, if we fall into Charybdis?"

At this juncture the Court is presumed to have interrupted the witness with the admonition that he should refrain from argument and confine himself to a statement of his opinion as an expert. At any rate, this mythical specialist might with better reason have chosen some substance other than arsenic to prove and illustrate his postulate that industrial hygiene is gradually minimizing the use of poisons in the trades.

THE FACT OF THE CASE.¹

BY

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I.

In all matters regarding the public health, our former governors, Dole, Carter, Frear and Pinkham, were safe and sane. They had an intimate knowledge of the purposes and methods of medical and sanitary organizations. Governor Pinkham's best work as a public servant were his services as president of the Territorial Board of Health. He vetoed the bill to license chiropractics, not because he was in any way prejudiced against the school, but for reasons concerning the public good.

It is not my intention here or anywhere else to enter into an analysis of the theories upon which chiropractics is founded. This school is quite able to advertise its own cures, and where it fails in this adventure, its loving friends will fill the breach.

In a consideration of the matter, the main point is not one of partisanship for or

¹Read before the Hawaii Medical Society, November 25, 1919.

against; it is solely a question of the public good. Despite current talk in many quarters, there is not such a thing as an attempted monopoly by the regular medical profession. The organization of scientifically trained men the world over, regardless of irregular or inefficient practitioners, is doing a large altruistic work. The first steps toward enlightened methods in surgery and medicine have all been taken by the regular school; the discovery and differentiation of contagious and infectious diseases—smallpox, typhus, typhoid, malarial, yellow and other fevers, cholera, plague, diphtheria, phthisis, leprosy, with many other diseases—and their cures, in so far as science has gone. Havana, Panama and similar pest-holes have been made habitable. The large death rates in the army and in cities have been brought down by the labors of the regular profession.

The Public Health Service, boards of health and medical organizations are working for small gain or no gain at all to make the world safe to live in. These organizations are often accused of being arbitrary or too self-protective, but the truth is, they exist and work only for the public, and the efficiency of the profession, solely to alleviate suffering and finally to do away with all sickness in the world.

Nobody strives harder than does the scientific doctor to eliminate absolutely and forever the very thing which gives him his bread and butter. There is not another class of men in the world that does this. Without claiming infallibility or universal adequacy in its membership, it does claim that the intelligent practice of medicine demands a certain uniform mental training in acknowledged methods, founded upon a knowledge of the human body, an intelligent conception of its functions, and a full

and precise knowledge of the action of drugs upon this body and its functions. Even then errors will occur. Some diseases may not be correctly diagnosed. Some unaccountable forms of disease will persist, some apparently incurable disease will become self-limited or submit to erratic or unscientific treatment. This inertia being apparent, we call it a "cure"; it is really an unrecognized and untreated condition.

Now, all one-sided schools of medicine are off-shoots from the regular profession. They originated in the original parent organization, but have become parasites upon it, abnormal growths which serve no effective purpose and may become malignant. They are like a political party organized upon one issue—prohibition, woman suffrage, wild-cat currency, or what not—always in the end abortive. They have eliminated perspective.

The regular school based upon the results of hundreds of years of disinterested research and intelligent practice, includes everything found to be safe in dealing with human life. Other processes and lives are incident to that, as they should be.

This school practices suggestion or psychotherapy, water-cure or hydrotherapy, electrotherapeutics, massage (osteopathy without any emphasis on bones), chiropractics when a bone is really out of place, the science of treating persons who imagine they are ill, and so on. All the reasonable aids tested by the most exacting experiments are incorporated by the regular school, and not singled out by loud advertisement as the sole basis of its therapeutic advancement. Yet, often the man who shouts his wares is the one most observed by the masses. Like Jack Horner he picks out a plum from the regular pie and cries, "What a great boy am I!"

Here the sign reads, "We cure every ill by remedying dislocations."

The next says, "We cure every ill by suggesting something else."

And, "We cure every ill by the bone method."

"We cure every ill by denying there is any."

"We cure every ill by the hands of prayer."

Always and ever by some one spectacular item which strikes the susceptible imagination of a sick man or woman who isn't getting better under scientific treatment. Always a mentally and physically sick man or woman is the subject. Children are too true to nature to be cured in this way. They are sacrificed.

Now again let me say that under each of these systems which have secured from the regular school all they know that is sound—under all of them arise cures. For cures are relative. Men and women recover without any treatment at all. Some die when there is nothing the matter with them, as we so often see in Hawaii.

To sum up a total of cures under any system is no evidence that the system has cured a single patient of his disease. Only the scientific method can determine whether the particular individual was cured, and of what; if he was curable; if he was even sick. In judging of bodily cures, gentlemen, this is a very important and generally overlooked *sine qua non*.

Until this first point has been established by honest, careful diagnosis, we cannot accept a single item as demonstrative. It is still a *quod erat demonstrandum*.

Certain persons tell us that if any or all of these schools do accomplish cures, they should be licensed to practice at large, ignoring absolutely the fact above indicated,

and also the fact well established by unbiased tabulation, that many persons have been sacrificed to death by uncertain and unscientific methods of treatment. This alone is reason enough why no such schools should be allowed to experiment upon weakness and credulity. It comes to a mere matter of protecting those unable to protect themselves from the practical application of errant theories which jeopardize their health and perpetuity.

To a certain locality I have visited, men and women come by hundreds to be cured of all manner of disease. All they have to do is to get into a pool of specified water, and they step out cured. Here are thousands of crutches hung up by those who need them no more. If you are not convinced by these silent instruments, you may ask those who once used them why they are there. Or, here is a man suffering from some regional lesion, the result of a small blood-clot stalled where it impedes circulation. The man has not been cured by ordinary methods of treatment, but one lucky day he falls down the cellar stairs, and lo! the blood-clot is disintegrated. He is cured by the fall. Who can doubt it? On a false system of therapeutics; the system used by all empiric schools, one might well establish a school of medicine based on Falling Down Cellar.

We might just as well license Kahunaism in Hawaii as to license any of the new, one-idea systems, because individuals by the score claim to have been cured by Kahunaism.

Of the two systems, Kahunaism appeals to me as being the more sensible and scientific. Yet we license chiropractics and not Kahunaism.

It was a sense of public responsibility which made the former governors of Hawaii

veto the bills to license fakir practitioners. That is what we have an intelligent legislature for, and that is what we have a sane and responsible governor for—to veto bad bills which have gotten thru.

Otherwise the public is at the mercy of medical Bolshevism.

II.

Idealities and long, drawn-out theories about life and action are very well so long as they remain abstractions. The science test by reasoning may be applied to them without impairing their seeming stability and charm. Even the classic syllogism leaves them intact, and they sink deeply into the minds of persons constituted to receive and encourage their growth, just as certain anaerobic bacteria will grow in certain media and nowhere else. Here they bud, spore and display their branching characteristics, but when light strikes them or an application is made to concrete examples they fail to materialize—literally to materialize.

But the world is a *fact*. It is hard and rocky, and no ideation or theory however plausible or attractive can prevail against it. It is founded upon the truth of the fact.

That all matter is an atomic whirl; that light, sound and color are mere results of speed, quicker or slower vibrations of air; that nothing really exists but our idea of it, may very well be advanced in talk or the pages of a book, but the minute you stumble in the dark, cringe under the thunder-clap, or stain your dress, you recognize (if you are sane) the immutability of fact, of matter, of things that have been, are, and ever shall be in the way of mere phrases which deny their existence.

The laws of gravitation bound everything. You may deny their force, but if you try to fly, your heavy bones will land you where they shall be broken. You fall.

Peter could not walk on the water, and with a faith greater than his, no Christian Scientist has been able to do what Peter tried but failed in doing. The trouble lay not in Peter, his faith or want of faith, but in the universal fact.

The ancient writer, like his modern prototypes, was wise to make the faith required

to remove mountains far beyond possible acquirement.

When the atmosphere is just right, rain falls upon the just and unjust—never before.

The live seed will sprout under proper conditions only. Thousands of years the latent seed lay in its Egyptian receptacle, but burst its shell to meet our sun and rain.

Nitrogen in the absolute quantities and combinations demanded of nature is useful or harmless. Yet nitric acid will kill the seeds of Egypt which lived for centuries, destroy all living tissue with which it comes in contact, marring and scarring to a certainty. Everyone knows better than to apply Christian Science to the action of nitric acid.

Here is your theory that there is no matter or danger to matter except mind or ideation, and here *man* is your seed and your nitric acid!

Test the matter. Furnish the example. Demonstrate the fact. Who not obsessed by a strange mental blindness will doubt the evidence of his eyes?

If nothing material is, then anything and everything becomes possible. You may measure infinite space with the same foot-rule which determines the length of a pig's tail. Such a theory applied to the practical needs of life becomes concrete evidence of the objectless meanderings of mortal mind. He who holds it may build his house in mid-air without foundation or prop. Airships which conform to the laws of gravitation are foolishness. The graceful flights of birds are less than the sad fall of our famous New England friend, Darius Green.

For us the central fact comes in that things must fall unless they are scientifically carried, or are lighter than the element in which they soar. The props and foundations must be solid. Not only that, they must be mathematically arranged to bear up so much weight, more of which will bring the superimposed object ingloriously to the ground.

Trees grow upward from the roots; you cannot make them grow if you plant them tops downwards. You, with your superior human authority and wisdom, may thwart nature's accomplishment, but she will never work your way. She will refuse to advance, remain recalcitrant, end all. You may coax her into multiple variations along the lines

of her normal development and secure in that way as Luther Burbank has done, strange and wonderful modifications, but never can you force the apple tree to grow into a coconut palm, or raise cucumbers from sun-flower seed.

A plug too large for a hole will not go in. Round pistons will not run smoothly in square holes. There must be fitness. If there is not material adjustment you will fail to make your sea voyage, your air trip, your automobile ride. Your best idea-intention, your theory-ticket ever so good, will not carry you from Honolulu to New York.

You may torpedo your boatload of Christian Scientists as readily as the same number of heavy materialists—they all will sink to the bottom alike.

The affinitist and idealist lovers no less than our medical theologians who deny the existence of matter, have failed to reckon with fact.

Love is a matter of mechanics, too. The woman you love cannot be ethereal, filmy, intangible except in your dreams. She in reality must comply with the stern, accurate requirements of practical anatomy, or you will have none of her. Ideally, she is a vision, an angel, yours to think and dream about as too good to profane by so much as the touch of your finger and, so far she is a creature compatible with the theories and abstractions of the Christian Scientist, but the minute you think of companionship such as men and women enjoy, of marriage, materialism is essential: a pretty fine quality of matter, too. And the minute a sense of fatherhood or motherhood asserts itself, the woman you marry may be Christian Scientist in mind, in body she must have breasts to fill with milk for her child and yours.

Oh, this talk about the nothingness of everything is the saddest sort of camouflage. It may not be conscious, but it is camouflage nevertheless. It hides the fact the truth of which like old Diamond Head, rises at the earnest approach of every beholder. It is there to be seen. Carried to its logical end the denial of matter eliminates death, because bodily perturbation of some kind must precede death.

The essential fallacy of such theories before the fact, and their inadequacy for practical application, are recognized and

tacitly acknowledged by Christian Scientists and other faith-healers who face material obstacles. They tell a patient who has a broken leg that he is not injured; that what his doctors call a fracture is only a product of mortal mind: an ideation due to some psychologic snag in the patient's mind.

But these theorists will not take any material chances themselves. Not in one single instance will they do it. Why isn't there at least one perfected Christian Scientist? Facing the most imminent and dangerous precipices of thought, they step very carefully to the edge of the actual cliff and shrink from its awfulness. They are not even tempted to throw themselves down as Christ was tempted to do by Satan. Why, in full faith do they not for once demonstrate to others the adequacy of their belief, by hacking their arms and legs with knives, by breaking their bones, by running full speed against a rock or down some mountain side? And, in all reason, since to such persons there is no material body, why should the most modest Christian Scientist fear to expose nothing? What are clothes, but an idea?

I am not discussing this serious matter flippantly, but in a reasonable way trying to point out to you the absurdity of it all, for reasonable minds cannot rest halfway. They must look ahead of the argument and see where they are going to "fetch up at."

Therefore, we must consider the Christian Scientist's conception of morality, under the belief that bodies, organs, functions, no matter where or when, are products of mortal mind, and really non-existent.

What harm in the closest embrace of two persons who really do not and cannot embrace except in ideation? Yet these Christian Scientists and other similar theorists dress their bodies with clothes. They act as if they had not just said, "There is not such a thing." Their women are ordinarily modest as to exposure. Their morals are good. They observe the conventions. They safeguard themselves by not allowing any accidents to happen to their virtue, which, after all, they tell you is an abstract possession.

Another inconsistency which might lay these teachers of a new faith open to the charge of insincerity is the fact that they marry in the ordinary way, live as other married persons do in the joys of purely

material things, and after the usual period of gestation, wives bear children with the average amount of pain and danger.

One could imagine that out of the inexhaustible Christian Science mine, such a very Christian Science nugget might be forthcoming. The old way persists when both parties accept the faith. Why not some more immaterial way? The babies could be grown on trees or shrubs, or they could be delivered to parents by fairies, handed down in gossamer baskets—any style but the old mortal mind style, so long and so hard.

And as for the union of full-faithed believers who preach and practice the theoretical phase upon others, I do not see why male and female are a necessary combination for marriage. With congenial and well-disciplined minds, sexless as to actual bodily presence, why not two males or two females as a reasonable Christianly scientific union for the establishment of home? I am asking this in a purely reasonable way—a question which the Christian Science premise indicates.

A conception should be based on fact whether of truth or offspring. If the latter cannot be made to swerve from the fact of the case, neither should the former.

I do not object to the promulgation of any statement of any theory which squares with the fact, whether that be in religion, medicine or psychology. We are ready to accept anything that can be demonstrated to be true. But I do object to a lot of talk and writing which goes only to the edge of the tongue and pen, a mere filip of verbiage, an ideation which not only once or twice, but always shinks and fades away in its application to life and matter. Were it to be used as an idea only, we should not question how trivial or inapplicable it remained. It would live on in innocuous desuetude.

But it is brought into the most serious affairs of life. It is basis for action. It is to dissemble with fact. It must apply to matter. It poses as therapeutics. It exists for everything which it denies has an existence, and for that only.

You are ill. Christian Science steps in to deny that you can be ill, but will cure you of your sickness. Why a cure if there be no sickness? Oh, it's only a mental ill. A kink in your brain. A morbid thought.

The treatment and the fee will be for that.

So the leg rots and the cancer proliferates, the lump breaks down, the spicula of bone continues to produce symptoms, the fever kills—despite all denial that nothing at all is the matter. The fact of the case persists.

And when the patient dies, the healer merely explains that "mortal mind" interfered. The sick man's mental condition was not in tune with the healer's power of transmission, something immaterial went wrong, some psychologic cog slipped, some hole was too small for the plug, some rod too short for the gear, always in the way of mind, never of matter.

No wonder children are taken out of the hands of such irresponsible healers, and the helpless saved from the application of treatment absolutely and inevitably inadequate, if not harmful.

That lesions of the mind, imaginative ills, are removed by such suggestions is easily explained. They are of such a nature that any hope, faith, realization, confidence, expectancy or psychologic stimulus would do the same. The unbiased feeling or impression must be displaced by another body, a pure matter of psychologic physics, nothing more.

Naturally, emotional persons are better subjects for such therapeutics than others. And Christian Science, so-called, is effective in certain conditions, not because it uses mind or intelligence as therapeutic factors, but because it uses pure emotion, uninhibited by a submissive, unthinking mind. The treatment is based on nerves, the most material of instruments, both in the patient and in the healer. The former laying aside his mind, is lifted by exalted feeling and confident expectancy; and the thing is done. Practically he is cured of an ill he did not have.

If those who are cured of serious disease by the regular lines of treatment were as loud and persistent in making it known, as are those relieved by unusual methods, we doctors might have some of the glory which now goes to the fakir. With believers it is as if one voluntarily relaxed to fall asleep. Slowly persons of more or less intelligence come to this place of mental hypnotism because our school failed to discover there was nothing the matter with them physic-

ally, or, knowing it, fell short of the necessary tact.

A very amusing and practical application of Christian Science was made some years ago by an old physician, once my preceptor. He was gruff but kindly, and like most physicians, did a large amount of charity work for which he expected no reward. Above his big heart he carried a head full of sense, and his keen perception of humor served him well. In the town where he had practiced for many years, and where, indeed, he had a sort of monopoly of sickness, came a Christian Science teacher and healer. Like most of her school she was an active propagandist. She soon had followers, built up a church, and in time was married to one of her members.

Naturally she made inroads upon the doctor's practice and tho he was too broad a man to be annoyed by the loss of fees, he was disturbed by the heresy and loss of prestige. He felt keenly that the new doctrine was a menace to the community. One cold, blustering night in January a year later came a ring at the doctor's door, and when he stuck his head out of an open upper window to ask what the matter was, or who it was wanted the doctor, the Christian Scientist's husband answered, "Me, doctor, John Brown. We're, that is, I, my wife, I mean, is expecting, in fact, the baby's comin'. I come to git you. The pains is mighty bad an' no signs of a-bornin'."

"Well, my man," said the doctor very firmly, tho I am sure a smile fell into his voice, "your wife ain't sick. Doesn't she know that better than anyone else? She isn't even married. Those clock-like pains which come with such strength are the timed temptations of the devil delusions of a morbid mind. My son, go home and tell your wife that I'm not a doctor. That she ain't a woman. Tell her, sir, that this is a pleasant night in June. Good night."

III.

Postscript to the Fact of the Case.—

Perhaps in nothing so much as in medicine and the art of healing do men and women go off a tangent. (The men who do are generally of the feminine type.)

In pure theology it doesn't matter what the speculation may be. Each person has a right to his or her particular creed regard-

ing salvation and the life beyond, without much altering social and business relations; but what one believes in a medical way may sadly affect one's mental and physical status.

Upon this errancy and the willingness of not only Americans but everybody else to be "humbugged" is founded the success of all the various systems of medicine, utterly unscientific and, as often, utterly absurd. Of these, a few are purely medical and, therefore, ephemeral. Like mushrooms, they grow in a night, root in the dung and disappear at noon. Others planned by longer-headed individuals combine religion or even science with the healing method, and so appeal to a larger and more intelligent class, holding their disciples by a dual bond. They satisfy a more or less universal hunger for an adequate belief.

Pinned to faith in this way, these schools secure an earnest following, some of it, let us grant, very estimable and lovable, yet held by the most subtle and dangerous of philosophies.

I wonder sometimes if the Bible did not mean these latter days when men would be tossed about by wind and wave of doctrine.

I knew once a modest woman who joined one of these more extravagant cults and became such an ardent believer that she finally went about stark naked. It was my embarrassing duty to persuade her to put on clothes, which she would not do until she had argued out the good grounds for her action.

"God regards the soul and not the body," she said. "Male or female, rich or poor, bond or free, all are the same to Him. The form of the human body is nothing, nothing."

If tomorrow I were to declare that shutting the left eye for half an hour every day at sixteen and a half minutes past three o'clock in the afternoon, at the same time uttering the word "Anyfakekanfoolakuss," the other eye gazing steadily at an inverted can opener, that this in a few weeks would cure disease; if with such an emphatic declaration I were to cite some scientific and religious reasons for the elimination of disease by the new method (which I could do), advertising the matter here and abroad, I would have many followers. Dozens afflicted with disease or fancied disease would write me for particulars.

After a while enthusiastic women and men growing a little old and docile, would find themselves cured of things they had suffered for years, and become ardent and loud-mouthed advocates of Anyfakekanfoolakuss. They would talk, write and preach the new method. Clergymen by the hundreds would send me testimonials under D. D.'d signatures. Debilitated women with weakness would quit their doctors and give up Lydia E. Pinkham. Even the intelligent and rich would fall into the therapeutic swamp, and in time churches of Anyfakekanfoolakuss would be built, and the strange cult would be established upon a firm basis. Whether I myself would get rich out of it, or become the apotheosized idol of a million hearts, would depend upon the shrewdness of my insight into human weakness and credulity.

Personally I might finally fail, like John Dowie, or succeed like Mrs. Eddy. In any case the circus would go on, and you would find yourself or some of your friends occupying the front seats.

Again this psychologic kink makes it good form for your friend to say to you, "Old boy, do you know what will cure your lumbago? Drop the doctors and try this: six grains common salt in half an ounce of water taken on going to bed." It secures space in a well-known publication for such stuff as, "But don't let any doctor scare you with talk about high blood pressure, if you happen to be one of the high ones. Go after the dumb-bells and they will keep you supple and fit enough in your bones and arteries. Then your blood pressure will take care of itself. Like enough you wouldn't know you had any if you didn't pay your doctor \$5.00 to shake his head and look sad over it."

There it is! Taking a useful aid to health under normal conditions, and making it an act dangerous to life. Hundreds, however, are taking just such advice seriously.

Apparently there are intelligent persons wearing lead rings and electric belts. One man keeps his health by abstinence from tea and coffee. Another is never sick because he takes a cold shower bath before breakfast. A third lives because he takes a hot bath on going to bed. A fourth has good digestion because he eats no meat. A fifth because he takes no sugar. One is sound because he "hasn't et no salt for

ten years." Another is so because he is a bachelor and has nothing to do with women.

Truly Shakespeare's remark about fools is correct, and Anyfakekanfoolakuss is as good a cure as any of the other one-legged systems now prevalent.



Sudden Death Due to the Thymus Gland.—Pulawski (*La Presse Medicale*, May 26, 1920) reports a case of so-called thymus death in a youth of 18 who was under treatment for epilepsy in a Warsaw hospital. He was forbidden to bathe alone but disregarded the command and was found dead in the tub clad in shirt and drawers. It was evident that he had attempted only a footbath from the state of the underdrawers which were rolled up. While thus occupied he had had a fit and had fallen in the tub which was a third full of water and there and then had drowned. The alternative includes death before drowning could have occurred. Death during a crisis of epilepsy is extremely rare. Autopsy now showed no evidence of death by submersion, for the lungs and stomach were alike empty of water. On the other hand there were evidences of edema of the lungs, but asphyxia should have been accompanied by a distended right heart while these cavities were found quite empty. The subject presented an enlarged and persistent thymus and the other phenomena of the status thymicolymphaticus. Ever since the time of Felix Plater it has been known that enlarged thymus stands in some relation to sudden death and the number of recorded cases of this coincidence is now very large. Altho this coincidence is now recognized in the explanations of sudden death we still know nothing of the mechanism. In 1830 Kopp stated that compression of the inferior laryngeal nerve by the mass caused death by induced spasm of the glottis. This theory was upset by Freidleben in 1858. Not until about 30 years later did Paltauf isolate the lymphatic constitution and its relation to sudden death from cardiac

paralysis. Next the endocrine theory asserted itself and the excess or diminution of some hormone was invoked to explain these deaths. Later it has been claimed that in new born children the old mechanical factor of Kopp might obtain and sufficient tracheal compression result to cause sudden death. This explanation, however, has no application to adult life and the problem here is still unsolved.


Symptoms of Hypopituitarism.—Undergrowth, dwarfism, dysgenitalism, feminine hirsuties, feminine type skeleton, lack of secondary sexual characteristics, genital atrophy and impotence, headaches, languor and weakness. Roberts (*Southern Medical Journal*, August 1920) says, may appear in varying degrees in different cases at different periods. The classic signs and symptoms of hypopituitarism are subnormal temperature, dry skin, adiposity, low blood pressure, slow pulse, constipation, amenorrhea, drowsiness and inactivity. Lack of attention, impairment of memory, actual dulness, mild psychoses to actual convulsive seizures with epileptic attacks may occur. The cause may be glandular deficiency of one or both lobes, a pituitary tumor with damage of the gland, a neighborhood tumor or hydrocephalus with pituitary pressure. The symptoms of intracranial tumor may be more prominent than those of pituitary deficiency. Infantilism, dysgenitalism, obesity, symptoms of intracranial tumor, warrant pituitary study.

Subcutaneous Injection of Organ Extracts, etc.—Ascoli and Fagioli (*Políclinico*, July 19, 1920) report that injection of an organ extract under the epidermis induces more of a local reaction than a similar injection of water, but the effect seems to be the same with thyroid, ovary and other extracts. The effect differs, however, when one of these extracts is added to a solution of epinephrin. It reenforces the epinephrin so that one-fifth elicits the same reaction as the full dose without the thyroid. Other organ extracts, with the exception of pituitary, inhibit instead of reenforcing the action of the epinephrin. They describe further research with various drugs, etc., showing that

they can be grouped by the edematous reaction to subepidermic or subcutaneous injection, especially the alkaloids, pilocarpin, etc. This response seems to differ characteristically in asthma and certain other pathologic conditions.

Diabetes in Relation to the Ductless Glands.

—Brown (*British Medical Journal*, August 7, 1920) advances the following generalizations: 1. The sympathetic mobilizes the sugar into the blood by means of the endocrine glands, for purposes of defence, while the parasympathetic stores it in the tissues as a reserve. 2. Ordinary diabetes shows no other signs of endocrine disease, while endocrine glycosuria betrays other evidences of that origin. 3. (1) Organic origin, with structural changes in the endocrine glands leading to (a) overaction of adrenal, thyroid, pituitary, or (b) underaction of the pancreas. (2) Sympathetic origin, with no evidence of structural changes in any endocrine gland, but producing a functional (a) overaction of adrenal, thyroid, pituitary, and (b) underaction of pancreas. Brown has long felt it a mistake to look upon diabetes merely as a disturbance of carbohydrate metabolism. But one must remember that carbohydrate represents at least 70 per cent. of an ordinary diet, and that the carbohydrates are the most readily mobilized of the foodstuffs. If the metabolism is only slightly affected, it will, therefore, be most apt to show this in relation to carbohydrates. There may be a stage in which, altho the power of dealing with sugar as such is impaired, the power of converting it into fat is not. Consequently, rather than permit the escape of valuable food material, the body converts it into fat. Hence the glycosuria associated with obesity. As the disease proceeds fat metabolism is also impaired, and diacetic acid appears. Further, it has been shown that protein metabolism is involved, and even the metabolism of inorganic salts. Diabetes is, then a sign of exaggerated metabolism, evoked thru the sympathetic and the associated endocrine glands, which first asserts itself in relation to the most abundant food material, but as it advances expresses itself in relation to all. The recent advance in the treatment of this disease by alimentary rest supports this view.



Physical Therapy

The Advantages of Physical Therapy.

—Physical therapy, says a writer in the *New York Medical Journal* (March 22, 1920), has been raised considerably in the estimation of the European medical profession during the war owing to the lack of chemical agents, which were diverted by the exigencies of warfare. Many physicians in France and Great Britain have been compelled to avail themselves of more primitive means of treating disease. Among these means the most prominent have been the physical agents which, according to its advocates, exert when employed scientifically, somewhat remarkable healing and curative powers.

The effects of physical training have been demonstrated in the clearest possible manner in the making of civilians into soldiers—incidentally converting flabby, puny, and anemic townsmen into hardy and rugged specimens of humanity. Moreover, in the treatment of the men disabled in war unique opportunities have been and are being afforded for putting these principles into practice. But it is urged that physical therapy has a range wider by far than in getting men into condition or in the rehabilitation of the injured. The claim is made that, properly applied, it is of infinite service in general practice and may frequently, with advantage, take the place of medication.

The claim seems to be founded on a sound basis, as its practice has produced in the hands of experts exceedingly good results in a variety of conditions. Rheumatism in many forms, neuritis, neuralgia, nervous conditions, certain heart conditions, and injuries of joints, muscles, or bones have all yielded to physical therapy, administered as hydrotherapy, electricity, massage, active and passive exercise, employed intelligently.

In this country there is in the person of Professor Tait McKenzie, of the University of Pennsylvania, perhaps the greatest exponent of scientific physical therapy of the world. During his experience as a major in the British Royal Army Corps, he was impressed by the large number of men suf-

fering from conditions which could be cured by some form of physical therapy. British physical therapists have come to exactly the same conclusion; and Italian and French practitioners versed in physical therapy have put these views into action with really astonishing results. In France and Italy men are being treated by what is known as the agricultural cure, that is, they perform agricultural labor under close supervision by medical men. It has been found that work or even play in which an individual can take an interest is greatly superior, from all points of view, to purely mechanical exercises. In any event, whether physical therapy is employed in the rehabilitation of injured soldiers or in the treatment of civilians, one fact is plainly evident, that the medical man who supervises the treatment must know his subject. An undoubted reason why bone-setters and other unqualified physical specialists so greatly flourish, is because the qualified medical man, as a rule, is ignorant of physical therapy. It appears to have been proved conclusively by the war that physical therapy is of great use in medicine and surgery, and therefore it would seem to follow logically that medical students should be provided with facilities to learn this branch of medical science under the most favorable auspices. This can be done most effectively during their medical curriculum. It does not seem out of place then to suggest that the time is ripe for the teaching of physical therapy to be regarded as a legitimate and essential part of the medical course.

Radium and Roentgen-ray.—The essentials of intelligently treating diseases responsive to radium and the X-ray are not only an ability to make an accurate diagnosis of the character and possible extent of the lesion present, but also a knowledge of the technic incident to application of the agent selected and the reaction which may be expected. Young (*International Journal of Surgery*, April, 1920) says that unless one is familiar with the clinical aspects of the disease being treated, the ultimate outcome will almost necessarily be unsatisfactory. For example: intelligent treatment can hardly be expected at the hands of one who is merely capable of operating an X-ray machine, or has read of good re-

sults from the use of radium of certain amount and filtration applied for a specified time.

In general, the most eligible situations for radium are those inaccessible to the Roentgen-ray, *viz.*: (1) within the nose and antrum; (2) the mouth (tongue, roof, floor, etc.), larynx, pharynx, esophagus and bronchi; (3) the urinary bladder and prostate; (4) the vagina, cervix and uterus; (5) the rectum; (6) in various forms of nevi and keloids. The latter seem to respond more favorably to radium than the X-ray. Isolated glands may be transfixated with radium needles introduced thru the skin, and when properly placed uniform radiation is secured.

In the first five situations named radium is generally accepted as being more favorable because of the anatomic location of the lesion, the radium element, unfiltered or filtered as desired, being placed in direct contact with the part treated. In many cases included in this group radium treatment may be supplemented to advantage by the Roentgen-ray applied thru the skin from the outside.

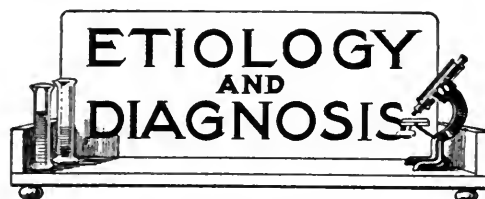
Roentgen-ray therapy may be applied over both small and large surfaces of the body, and in many instances is efficient in addition to being a great time saver. In malignant disease where metastasis has occurred the X-ray may be used with greater success than radium over the metastatic area and adjacent points.

(1) There are definite fields of usefulness for radium and the Roentgen-ray both, singly and collectively.

(2) Earlier recognition of diseases amenable to these agents and greater proficiency in their employment will result in a more comprehensive understanding of the indications, contraindications and limitations.

(3) The radio-therapist should be adequately trained in the diagnosis and clinical course of affections responsive to these agents as well as the technic of their application and the reactions which may be expected.

Traumatic Fever.—It is stated that five drops of fluid extract eucalyptus, given every half hour, in traumatic fever is a superior remedy.—*Med. Summary.*



A Study of Encephalopathic Children.—Hutinel and Babonneix in a recent issue of the *Journal de Med. et Chir. Practiques*, having previously established that hereditary syphilis plays the predominant rôle in the brain pathology of infants, divide the encephalopathic lesions into two classes: 1. Inflammatory lesions; 2. abnormalities of development, sometimes localized in the brain, sometimes generalized over the body. These anomalies may be the result of hereditary syphilis in certain cases, or the spirochetes may act directly upon the brain and cause sclerosis, gumma or arthritis or they may act indirectly thru the internal secretory glands.

The disease may cause convulsions and epilepsy, or on the other hand it may cause spasmoparalysis which may be bilateral or unilateral. Involuntary movements, either bilateral or unilateral, are also to be observed. Occasionally the trouble may be exclusively intellectual, and the child may be afflicted with idiocy in different forms. Usually motor disturbances and intellectual disturbances are associated.

The diagnosis may be established early, for the parents soon recognize that the child is not like others.

The treatment should be specific, and consist in mercury inunctions, hectine, novarsenobenzol, syrup of the iodide of tannin. The mother should be treated during pregnancy and the child from its birth.

The Diagnosis of Internal Cancer.—Huffman (*Long Island Medical Journal*, July, 1920) holds that in any case a patient suspected of having internal cancer should be given the benefit of: (1) A test-breakfast and gastric analysis: According to Smithies and the Mayo experience the free hydrochloric acid is diminished in quantity or absent in about 85 per cent. of the cases of gastric cancer. The Rehfuß fractional analysis of gastric secretion and the examination for occult blood in both in the expressed gastric contents and in the feces should be done. The Salomon and the Wolf-Junghans tests for serum albumen should be made. Vomitus should always be examined; blood, debris of retention, lactic acid, and Boas-Oppler bacilli, altho evidence of advance cancer naturally are of interest in making the diagnosis of advanced cancer. The feces should be examined, too; blood, pus, necrotic material—all may help in recognizing cancer, but one must not think of these as early signs. (2) A complete X-ray study, especially the fluoroscopic examination following an opaque meal or an opaque enema. (3)

An exploratory operation if there is no restoration of health at the end of one month of symptomatic treatment, inasmuch as the alternatives from which cancer should be differentiated require operation as well and because as soon as the diagnosis would be absolutely certain it is too late to operate.

Symptomatology and Etiology of Papulous Urticaria in Children.—Schütz (*Semana Medica*, May 6, 1920) has observed, during his long practice, that frequently strophulus and oxyuriasis occur together, or, if not simultaneously, that numerous strophulus patients have been treated at some other time, either later or earlier, for oxyuriasis. He has also noted that oxyuriasis and strophulus are most prevalent at the same age, and both show the same seasonal incidence. It was also found that therapy directed against oxyurids was also effective in relieving itching in strophulus patients. He points out that in early youth the hydrochloric acid content of the stomach is very slight, which furnishes a plausible explanation for the fact that both conditions are confined mainly to the young, since a strong hydrochloric acid solution may be expected to prevent an infection with oxyurids by mouth. Farinaceous food will usually favor the development of oxyurids. The low meat diet and the increased amount of farinaceous food during the war would explain the present greater prevalence of the two conditions.

Tuberculosis of the Appendix.—Margaret Warwick (*Annals of Surgery*, February, 1920) holds that tuberculous appendicitis is a definite entity which, the rare, should not only be considered in both diagnosis and prognosis but justifies routine sectioning and careful examination of all appendices removed at operation. Demonstration of the lesion may save many lives either by removal of the primary focus or by making a diagnosis so early that immediate treatment may bring about arrest or cure of the general conditions. She concludes as follows:

1. The disease may be primary or secondary.
2. Infection occurs directly from the intestinal contents or by the hematogenous or lymphatic route.
3. It may produce either the ulcerative, hyperplastic, or military type.
4. It can frequently be diagnosed only by microscopic examination.
5. The symptoms resemble very closely those of suppurative appendicitis.

Early Symptoms and Diagnosis of Diseases of the Spinal Cord.—Mott (*British Medical Journal*, June 26, 1920) asserts that the two subjective sensory symptoms which are the earliest evidence of disease of the spinal cord are pain and paresthesia or dysesthesia. They may be the sole symptoms, at first, of severe spinal

cord disease, and it should be recognized that a patient who comes to a doctor complaining of localized pain or numbness, tingling, pins and needles, formication, or other abnormal sensations, presents the possibility of early signs of spinal cord disease. Considering the objective disorders or sensibility, he states that total anesthesia in disease of the spinal cord occurs only in cases where there is a complete transverse lesion, such as occurs in fracture dislocation, bullet wound, or severe meningomyelitis caused by compression or disease; the prognosis is always grave. In meningomyelitis the subjective sensory symptoms and hyperesthesia precede the anesthesia in all cases arising from focal myelitis, or radiculitis, or diffuse myelitis. Dissociated anesthesia is more frequent and more important as a diagnostic sign than total anesthesia in the localization of lesions, by dissociation meaning that all modes of sensation are not affected, or not affected to an equal degree. Superficial sensibility to a light touch with a wisp of cotton-wool, to pricking, and to heat and cold may coexist with unimpaired deep sensibility. An anesthesia to light touch may be associated with the preservation of pain sensibility, and even so exaggerated that touch sensations are only recognizable as painful (anesthesia dolorosa). This sensory dissociation may be met with in peripheral neuritis and in cases of compression and irritation of roots. In syringomyelia and hematomyelia, where the grey matter is disorganized, pain, heat and cold sensation are not felt, but tactile sensations are. He emphasizes the importance of anatomical diagnosis in prognosis and in cases where surgical interference may be contemplated. It is necessary to decide by examination: *First*, whether the case is functional or organic. *Second*, if organic, in order to form a correct judgment regarding prognosis and treatment, it is essential to diagnose the pathologic nature of the lesion and its anatomical situation.

The Diagnosis of Pulmonary Tuberculosis by Radioscopy.—A. Dumas and A. Corone (*Lyon Medicaire*, Jan. 25, 1920), who were in charge of the tuberculosis department in the French Army of the East at Salonica, state that in cases of confirmed tuberculosis radioscopy gives valuable information as to the extent, form, mode of onset, and course of the disease and the appearance of complications. In cases in which the diagnosis has not been confirmed bacteriologically, but where the stethoscopic signs are definite, radioscopy may confirm the diagnosis. In more doubtful cases it may render the diagnosis of tuberculosis probable, and in some instances facilitate an early diagnosis. In latent forms it may indicate an old lesion at the apex, and so throw some light on the prognosis of subsequent attacks; but its chief value is shown in those cases in which the screen examination is negative. As compared with bacteriologic examination, which decides what cases are definitely tuberculous, ra-

dioscopy in its turn decides which cases are definitely negative, provided that the X-ray findings agree with the clinical signs obtained by auscultation and examination of the general condition and weight of the patient.



Malignant Endocarditis in Childhood.—Attacks of rheumatism occurring in a child, says a writer in the *Medical Council* (July, 1920), should always be looked upon as serious because of the frequent unfortunate complication of endocarditis. Now and then one encounters a form of rheumatic endocarditis which is insidious in character, malignant in its tendency and suddenly fatal in effect. The apparent attacks of rheumatism are often so slight as not to be deemed of any importance, and may go on appearing for weeks, months, or even years. The child is eventually brought for treatment, not of rheumatism, but of dyspnea and precordial pain. Usually the stethoscope reveals a mitral insufficiency of some standing, a few pericardial sounds of recent origin, and a harshly accentuated pulmonic second sound. Rest in bed and treatment apparently bring about complete relief. More careful observation shows that the daily temperature is not normal, but is continuously irregular and fluctuating, and pallor persists. Another attack comes and goes. These alterations of improvement and relapse are characteristic of the form; but nothing seems to point to any danger.

The final phase sets in quite insidiously and without warning. There is an exacerbation of fever. Tachycardia, always regular, reappears in greater intensity. The cardiac symptoms are less marked, owing to the weakness of the myocardium. The pulse is rapid and weak. Vomiting and hemoptysis set in. The child dies rapidly in collapse. Post-mortem, the heart is found hypertrophied and dilated. There are old and recent pericardial lesions, some chronic myocarditis ending in mitral inadequacy and a certain amount of stenosis. Histologically, acute myocarditis is found.

The prognosis must be very guarded. The treatment is unsatisfactory. Every attack of rheumatism in a child, however slight and benign, should be most carefully watched and treated intensively with salicylates. The heart should be kept under observation for weeks. All tachycardia, all precordial pain, whether or not accompanied by an elevation of temperature, should be regarded as serious. In addition to salicylates, cardiac tonics are indicated, and of these digitalis is far and away the best. Care-

fully given, it reduces the tachycardia and relieves the pain. The heart of a child attacked by parenchymatous myocarditis offers a remarkable resistance to the toxic effects of digitalis. No double rhythm is produced, and all the heart symptoms improve notably. The treatment, to be efficacious, must be instituted early.

Color Effects on the Sick.—Kemp, in the *Medical Times* (April, 1920), reviews his observations on the curative values attaching to certain colors. Blue, at one end of the spectrum, is magnetic and soothing, he tells us; it is beneficial in panicky states of the mind, with inability to concentrate. Violet is powerfully curative. A bright yet soft yellow suggests life; a light shade of blue, the great sky overhead. To a neurasthenic, in whose mind fear is resident, and doubt, and despondency, such colors have a perceptible influence in his favor.

However, the efficacy of color treatment depends also on proportion and arrangement. A blue ceiling with walls of sunlight-yellow go well together; a solid color for all surfaces might provoke the dread of confined space. A combination of blue and violet acts beneficently in nervousness and insomnia. A soft green may be applied to headaches; the old cure is still practiced in certain parts of England, which exhorts the sufferer to sit and gaze steadfastly at a green field.

Sunlight-yellow is a strong mental stimulant, and somewhat less so primrose yellow. Mauve is a mental sedative. In extreme depression, cardinal red is useful, while rose among the colors is recuperative for the mind.

Deficiencies in Our Methods for the Treatment of Chronic Nephritis.—Deficiencies in our knowledge as to the etiology and pathology of chronic nephritis and associated vascular lesions, according to Christian (*Journal of the American Medical Association*, June 12, 1920) handicap our treatment. Treatment is largely symptomatic and based on such knowledge as we possess of renal function. Preventive treatment is very unsatisfactory. In treating chronic nephritis we aim: (1) to stay the progress of the lesion; (2) to remove edema; and (3) to prevent the formation and combat the effects of toxic substances. To stay the progress, we seek to prevent infections, and by dietary restrictions to decrease renal work and so afford physiologic rest and opportunity for repair. The latter seems a rational procedure, but we need much knowledge for a basis of determining the optimum for a prolonged intake of water, salt and protein. To remove edema, we restrict salt and fluid intake and increase elimination; but we know very little as to the cause of edema, and hence are handicapped in treatment. Increased elimination by diuretics rarely succeeds when a renal lesion causes edema. Elimination by sweating and catharsis is slow.

but may succeed. Mechanical removal is effectual, but temporary. To prevent toxic manifestations, we reduce protein intake; to combat them, we increase elimination by diuresis, diaphoresis, catharsis and bleeding. Bleeding is the promptest and most effectual method of elimination of toxic substances.

Treatment of Diarrhea.—For the treatment of diarrhea, associated with an unknown intestinal infection, Carnot and Bondony (*La Medecine*, July, 1920) recommend for intestinal antiseptics the use of chlorine compounds in which the chlorine is attached to a nitrogenous group, which have the advantage of uniting a high antiseptic property to a very low toxicity. Their slow decomposition sets free alkaline hypochlorites conferring an indirect oxidizing property, which increases their microbicidal effect.

For the purpose they order:

Chloramine T.	0.05 g.
Powdered charcoal	0.30 g.
Chloramine T.	0.05 g.
Powdered agar	0.30 g.

in one capsule or tablet, four of which are to be taken daily.

For chronic enteritis with persistent diarrhea, Depist and Durand recommend the use of oxide of zinc. This has a precipitant effect upon mucin and serum-albumen, the chief constituents of the flux. They give it in a dose of 0.60 to 1.0 g. a day in keratinized pills containing 0.20 g., taken at regular intervals between meals, for periods of a fortnight at a time, with free periods intervening.

Dufour recommends the use of liquid extract of salicarine, which is very rich in tannin, giving a daily dose of 3 g. in syrup. A glucoside of salicarine may be used in a solution of 2 per cent., giving from 40 to 100 drops a day, or in 1 per cent. tablets, taking from 8 to 20 each day in a little water.

Gaultier has found to be very serviceable a combination of opium and an astringent provided by the tannin of kola, the action of which drug on the central nervous system is well known. He prescribes:

Tincture of kola	15 g.
Tincture of opium	5 g.

10 drops of this mixture in a little water are taken at the beginning of each meal. One drop a day is added until the effect is produced. This dose is kept up for three days and then decreased by the drop each day, watching the effect.

The Treatment of Acne.—In acne, more particularly in girls, where there is no ovarian irritation, and in men and boys, Berberis is an excellent remedy. It may be given in doses of from ten to thirty drops four times a day.—*Ellingwood.*



Annals of Medicine.—The first number of this publication has been received, dealing exclusively with internal medicine. The supervising editor is Dr. Frank Smithies, of Chicago, with a list of associate editors, including the best known internists in the United States, among whom appears Dr. J. M. Blackford, of Seattle. The issue particularly features the American College of Physicians and American Congress on Internal Medicine, presenting photographs of the councilors of these organizations. Interesting papers are published on important medical topics. About half of the issue is devoted to abstracts of current literature. It will be published quarterly by W. F. Prior Co., Hagerstown, Md. It is printed on an excellent quality of paper, two columns to the page. This is a valuable addition to scientific and medical journalism.

Archives of Surgery.—The first number of the *Archives of Surgery* has recently been issued by the American Medical Association. It will contain papers which have been read before the surgical section of the Association and also original articles pertaining to research and investigation in the field of surgery.

A New Publication.—*Mother and Child* is the title of a new magazine issued by the American Child Hygiene Association. The periodical is a message to medical and lay people alike. It treats of child-life conservation from the earliest prenatal care thru adolescence, giving practical hints and worth-while instructions to those who are entrusted with the moral and physical guardianship of such lives.

The American Child Hygiene Association is performing a most useful mission to the Nation, not only in reaching the city needs, but in penetrating the country to spread the gospel of prevention. The scope of work outlined by the Association calls for activities of varied types, all of which will have a direct bearing upon child-life morbidity and mortality statistics. AMERICAN MEDICINE heartily endorses this program. It welcomes the opportunity to commend it to the thoughtful members of the profession and lay organizations. It predicts most wholesome results in behalf of all sections of the country following such work; and it extends congratulations upon the very excellent booklet that is the official organ of the Association.

American Medicine

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In Advance

The Election.—Another national election campaign has drawn to a close. Candidates have traveled extensively and have undergone severe and unusual strain; throats have been abused; emotional excitement has pervaded communities to the end that a chief executive of the United States might be selected according to the wishes of the majority as represented in the electoral college. The number of issues placed before the American people has not been great, and there has been considerable doubt on the part of individual candidates as to whether Article X was more important than the 19th Amendment, or whether the tariff should take precedence over senatorial power.

It is fortunate for the country that national elections are not held more frequently. The personal character of our election campaigns, the charges and countercharges, the vilifications and denials, the exhortations and pleadings, the misrepresentations and falsifications, the appeals to class prejudices, the stirring up of group consciousness are far from salutary to our national life. Platforms and principles fail to serve as the actual point of contact of minds, and excursions far afield tend to becloud truly national issues. The total result is too frequently uncertainty, doubt, and a choice based upon advantages to the individual rather than upon benefits to the nation. Patriotic harangues are founded

upon individualistic appeals, sectionalism and narrow problems involving various national groups that are entering into national life.

The motives which are revealed, and the energies which are developed hark back to primitive instincts and their accompanying emotions with natural consequent sentiments. In a sense, there is almost a form of disintegrating force applied to the people in an attempt to secure the cohesion of a majority. From the standpoint of natural hygiene, little can be advanced in favor of this method of campaigning. The attempts at democracy are fraught with so many excrescences that there is a grave question as to the degree of national sanity evidenced in the electioneering phenomena. In all probability, the shaking-up process possesses advantages, and the end-result may justify the vigorous agitation. It would appear, therefore, as tho national contentment could be procured with less widespread excitement of a type not calculated to cause a feeling of rest or peace to fall upon the people already beset with serious problems demanding discrimination and sound judgment.

We are not concerned with the individual who may be selected, save in so far as he symbolizes a governmental policy. We trust that the next President of the United States will be vitally concerned about public health as an essential phase of national welfare. Never in our history has there been

a greater need for thoughtful and wise administration. The multiple problems involving national health have grown more complex, and leadership is required in order to harmonize and re-direct governmental agencies in the interests of greater cooperation, and more certain effectiveness.

To the next President we offer our support as becomes all citizens of a republic governed by the wish and authority of the majority of the population. To him we wish health and vigor, visions and dreams, courage and convictions. The national health has been sorely tried and to him is given the privilege of aiding to secure its restoration to greater peacefulness, usefulness and effectiveness.

Medical Influence on Legislation.—

The efforts of medical organizations to participate in legislative councils have not been rewarded with remarkable success. State medical societies possess legislative committees whose inactivity has been interpreted as a lack of medical influence in legislative halls. Considering the character of the medical profession, its aims and ideals, one would like to believe that it has been successful in functioning in behalf of public welfare. J. B. Hawes, 2nd (*Boston Medical and Surgical Journal*, October 7, 1920) points out that the medical societies organized within the various states have comparatively little influence in the community and, for various reasons, fail to exert any marked influence upon legislation relating to the medical profession, or pertaining to public welfare.

As a result of an inquiry into the methods adopted by various state medical societies to solve legislative problems, he arrives at

definite conclusions as to the steps which are essential in order to improve a present discouraging state of fact, namely, the low degree of power and influence exercised by the medical profession for the good of the state. He advocates greater education of the public as to its needs in health matters thru the utilization of the press. This advice is far removed from the old theory that medical men must keep out of the newspapers, lest they be suspected of attempts at self-advertisement. The value, however, of the suggestion is now recognized, and didactic stories and new items are constantly appearing over the signatures of capable medical men.

Education of the legislators is advocated, but for the most part this is regarded as a part of the special function of the family physicians of particular legislators. In a sense, this is not so much a matter of real education, as an attempt to exert personal influence upon the legislator. It would appear as tho such men, thru their readings, might be able to secure as much education on medical topics as the rest of the public for whom lay publications are advocated. If this educative function is relegated to the family physician, it is equally essential that the doctors be sufficiently broad-minded to interpret the medical needs of the public in terms that are not confined strictly to the personal interests of the individual physician, or to the demands of a reactionary group of the medical profession. Patently, the medical profession demands education thru the medical press, current papers, and medical meetings in such a manner that each physician will awaken to the fact that his civic responsibility is increased by virtue of his professional calling. He cannot have adequate influence upon legislation, until

he has influenced himself to participate in public health matters, preventive medicine, and in all that tends to raise the standards of human welfare. Possibly when the profession has educated itself to a realization of its potentials, it will be more effective in functioning thru legislative committees or those on public welfare.

Dr. Hawes suggests, in part, that the State Medical Society might maintain an indirect lobbying agent to keep track of projective legislation. He does not regard the legislative committees of medical societies as particularly influential. Recognizing, therefore, that legislators are sensitive to the opinions and judgments of their constituents, he advocates flooding individual or groups of legislators with letters, telegrams, and personal interviews with a view to influencing his or their action. This plan, in part, is employed in Texas, Missouri and other states of the Union.

In all probability, the matter of influencing public opinion depends upon the definiteness of opinions held by the physicians constituting the state society. It is not merely a question of fixity of view, but of fairness of judgment concerning legislation designed to affect the welfare of all the people of the state. Special or general legislation is inadequately considered by state societies, because their meetings are, as a rule, only held once a year. It is difficult to secure a reflection of the professional viewpoint without recourse to the actions of constituent county societies, meeting approximately only once a month. Special committees, as a rule, function in terms of their particular interests rather than in the light of the needs of the entire profession and, in consequence, when an appearance is made at legislative hearings there are, also, many voices raised to advocate a point of

view distinctly contrary to that expressed by the medical committee. Hence, it is easy for the legislative committee or for an individual legislator to say that, apparently, the profession, as a unit, does not know just what it does want. This obviously reacts to the disadvantage of the legislative committee of the medical society.

The influence of the medical profession in legislative matters is limited because the profession as a whole has manifested only a casual interest in the subjects involved, and has given an inadequate discussion to the problems, the solution of which is attempted thru legislative channels. Wherefore, it appears that the primary efforts at raising the standards of medical influence must be devoted to educating the profession, and to developing a consciousness of professional opinion that is thoroly in harmony with medical interests, and the welfare of the state. Herein is to be found the greatest opportunity for fostering a powerful unified professional opinion that may function thru society resolutions, committee action, and the personal appeals of individual physicians to their own representatives.

"Just Because I Want to Play."—The *Atlantic Monthly*, September, 1920, contains a significant and suggestive discussion by Edward Bok, with the delightful title "Just Because I Want to Play." Mr. Bok, having worked with sincerity, zest and industriousness, decided that he would withdraw from his active association in business, and devote himself to numerous other interests that would give him an opportunity to enrich his own life, and afford greater pleasures to others in his world. His point of view is that of a man thoroly satisfied

with his commercial accomplishments, willing to stop the acquisition of money for money's sake during the height of his activity, to shake off the shackles of a domineering occupation, and to soar forth on the wings of a newborn freedom for flights that appeal to his fancy.

Most men are so thoroly engrossed in business that it constitutes the greatest part of their personal life, and dominates their living world. This is the type of man who "dies in the harness," who devotes every moment of his waking life to thinking about the material phases of human effort. There are others who supplement their daily activity with forms of recreation and amusement, of an active or passive nature, according to their physical strength and mental attitude. Still others find relaxation in simple avocations, hobbies, art, music, stamp collecting, the raising of fancy stock, and participating in numerous educational and philanthropic enterprises. Another group toils assiduously for a definite portion of the year, and then seeks relief in travel, the visitation of other countries, or participates in the joyous expedition for fish or game. The number who fail to recognize the recreational and play side of life is constantly decreasing. Each person more or less accepts his plan as the best, and utilizing himself as a criterion feels free to criticize the activities or inactivities of others.

Mr. Bok finds that he has disappointed some of his friends, because he resigned from active business in order to play, and because he insists upon ceasing his work in order to be privileged to live thru play and the greater enjoyment that arises from the release from the exacting demands of a business career. His point of view seems unbusinesslike to many who have failed to

grasp the idea that life consists of something more than working for the sake of work, and the pursuit of money for the purpose of acquiring money. Each man solving the problems of his own life in the light of his intelligence must formulate his own plan of action. There is, however, much that is rational in the plan that Mr. Bok accepts for himself. Ceasing work at the height of his activity and power, he is preparing to devote the remainder of his life to outside affairs that are depersonalized, in all save his interest in them. In his retirement from struggles for his own immediate benefits, he is to find the greatest satisfaction in the devotion of his life to service for others. His mode of living will be more attuned to the demands of increasing years, and will thus promote his physical well-being and tend to protect him against the strains and stresses incident to the life of the business man of advanced years. He wants to play.

Physicians, who in their daily rounds are in contact with many who do not know how to play; who are in a position to recognize the advantages of recreation, who prescribe it, encourage it, and stimulate it, will appreciate the strength of Mr. Bok's position altho immediately cognizant of the non-adaptability, as well as the inadvisability of it for many of their patients. The geriatrist would approve of it for the man who elects this mode of living, and probably would disapprove of it for those who have grown old without a consciousness of interests beyond such as relate to self and family. Physicians, themselves, may gain an insight into another point of view concerning constant application to business and professional activity, thru reading the reasons for a man's thinking in terms of "Just Because I Want to Play."

Reactionary Folly.—The growth of civilization has developed a social consciousness. The control of individual interests in behalf of the race has definitely characterized tendencies of the past century. Not unnaturally; medicine has shared in the progress of modern ideas, and has undergone many alterations which have required a degree of adjustment which, to some, is unwarranted and undesirable.

In the May issue of the *Medical Review of Reviews*, appeared a most reactionary article by Dr. C. J. Whalen, under the title "The Evolution in Medical Practice or What Ails the Profession." Herein, one finds a most unusual and surprising expression of opinion concerning the mode of offsetting the unrest, alleged to exist among medical men. If ever an article was written viewing medicine as a business rather than a profession, this one deserves especial comment, as an attempt to give the dollars and cents phase of medicine as the dominant reason for the existence of physicians. Communal health, apparently, plays no part in the ideation of the author. For years, physicians have been proud to limit the reason for their existence thru endeavors to decrease morbidity and accidents. The profession has rejoiced in the lowered death rates from various diseases, and has hailed with delight the introduction of diagnostic methods, immunizing products, and therapeutic substances designed to prevent disease and lessen fatality. Medical men have, indeed, participated in every movement to improve the public health.

It seems strange that in these days a physician should speak or write such words as these: "I have mentioned but a few of the factors affecting the profession unfavorably. I could go on almost indefinitely enumerating conditions that are developing to such

an extent that they interfere with the future welfare of the physician. To one who has watched the trend of the times, it is definitely apparent that there is a well-defined movement all over the United States, and for that matter all over the world, to impose many limitations on the practitioner of medicine. It is time that the medical men protest, and show to the public the nefarious and dangerous tendency of many of these regulations; otherwise, in the near future a large number of laws are sure to appear on the statute books, the purport of which will be to impair the usefulness of the practitioner and impose hardship and dangers upon the sick and the suffering."

And what are the expressions of these dangerous tendencies? As enumerated in part, the author refers to diphtheria antitoxin, the decline of typhoid fever, the destruction of the disease-bearing mosquito, the improvement of milk and water supplies, the morbidity from hook-worm, the early recognition and hospitalization of tuberculosis, visiting nurses, tenement house inspection, medical inspection of schools, the regulation and suppression of alcohol, "the disposition to work along lines of prevention rather than cure," the programs of the Red Cross and the United States Public Health Service, which are referred to as "socialistic dreams." There are references to the tendencies towards state and social control of medicine thru the extension of hospitals of various types, and campaigns against specific diseases. These are the conditions whose "nefarious and dangerous tendency" may impair the usefulness of the practitioner, and "impose hardships and dangers upon the sick and the suffering."

Fortunately, this attitude of opposition towards human welfare does not represent

the viewpoint of any particularly notable or noteworthy group of the medical profession. These very methods of combating disease are not merely the outgrowth of medical research and discovery, but are in harmony with the most priceless tenets of the medical profession. They indicate the purpose of physicians to serve the public, and form the practical translation of medical ideals into responsible practice. There may be some abuses which have resulted from the extension of the sociologic phases of medical practice, but they are incident to the transition of emphasis from curative medicine as a dominant trait, to the preventive idea in medicine as the most useful branch of medical service in attacking disease. Part of the difficulty has resulted from failure of the profession to recognize and appreciate its opportunities in the light of the altered status of medicine. The public health program has been introduced, and has grown beyond all possibility of inhibition. It is as futile to endeavor to stay its progress as it was for King Canute to forbid the ever-moving sea from encroaching upon the regal chair. Physicians themselves are a part of the onward movement and, in turn, receive the benefit of the flood of advances in the control of disease, not merely as physicians, but as citizens and parents.

The difficulties of the profession are largely overestimated, and particularly by those who fail to grasp the significance and advantages of eliminating and controlling disease thru rational administration, education, and an improvement of the standards of health and comfort. Medical practice is undergoing an evolution which brings its own solution to many of the problems deemed to be responsible for medical economic unrest. It is impossible to believe

that any normal-minded physician could, or would wish to hark back to the times when infantile diarrhea kept him busy during the summer, or when diphtheria robbed homes of promising children, and typhoid fever despoiled communities of its vigorous young manhood and young womanhood. It is unbelievable that any physician should point with regret to the fact that puerperal fever is less common than heretofore, or that preventive methods are accomplishing more than was possible by recourse to medication. It does violence to medical ideals to hint that the profession rejoices in the presence of contagious diseases, or in the devastation of epidemics.

If one were to grant that the improvement of public health affected the profession unfavorably, one would still have to acknowledge that under such circumstances the medical profession is of secondary importance. The author suggests that the overcrowding of the profession is caused by the lessening of morbidity. As a matter of fact, there is no overcrowding of the profession save in a few cities of the country, but there is a woeful, disproportionate distribution of physicians, so much so that in some communities subsidies are being offered to attract members of the profession as permanent residents. The growth of preventive medicine has supplied new fields for service, and a larger proportion of men and women are finding themselves advantageously provided with types of positions which can give them more abundant opportunities for public service, and if the commercial aspect is to be considered, at guaranteed salaries well beyond the average annual income of the majority of practitioners of medicine. In industry, in education, in county, state, municipal, and federal service, there are to be found

an increasing number of the profession whose efforts have been transferred to serving the masses rather than individual families. These increasing facilities for promoting public health and lowering morbidity and mortality deflect from current practice a large group of physicians, and to a large extent, contributes to removing them from private practice. These results tend to offset any natural tendency towards overcrowding of the profession. In addition, the raising of the standards of medical practice and the closing of spurious and inadequately organized medical schools have effected a decrease in the number of physicians annually made available. One might enumerate, similarly, a large variety of social efforts that are influencing the evolution of medical practice, and are gradually smoothing over the difficulties of readjustment.

The socialization of medicine does not eliminate the physician. Nor does it impair his usefulness; nor does it decrease his opportunities or his financial rewards. As a matter of fact, it dignifies medicine, strengthens it, stimulates its resourcefulness, and advances its progress in numerous ways. It recognizes the doctor as a prominent agency in promoting human welfare. It is time that the few reactionaries rebelling against human advancement and the progress of public health, took stock of the meaning underlying the social tendencies of today, and re-valued them in the light of community welfare rather than in terms of a personal pecuniary return. The rights and interests of medical men as men are bound up in the rights and interests of mankind.

phies are characterized by suddenness and severity. The recent attempt at wholesale destruction in New York City offered an example of the reaction of an adjusted community to an unexpected and almost unthinkable outrage. With a tremendous roar and shattering of glass, human beings were plunged into a maelstrom of confusion born of horror, dismay and fear. The test of human courage was met as firmly and as steadfastly as upon a field of battle. Before the last reverberation had ceased, while officers were pouring out their frightened hordes, all the instrumentalities of civilization were being mobilized. Within three minutes ambulances were upon the scene, and within six minutes at least one of the victims was undergoing an operation designed to save his life.

There is no need to dwell upon the unpleasant picture of the dead and the injured. The personal exhibitions of fortitude and self-control were in no wise different from those manifested on the fields of carnage in France. The striking lesson was the promptness and deliberateness with which the forces of re-construction were poured upon the stricken area in their mission of relief. While many institutions were engaged in succoring the wounded, relieving distress, administering first aid, and seeking the injured, especial praise is merited by the Broad Street Hospital, nearest of all to the bloody scene. Preparedness, devotion to duty, quickness in response, and thoroness of activity characterized the part played by this institution in meeting the demands of the disaster.

One expects hospitals to attend, with reasonable care, to the multitude of patients forming part of their daily service, but the organization of hospitals is not such as to indicate their capability of rising to an

emergency in this surprising manner. Internes and an attending staff, almost instinctively, felt the call to an unusual opportunity for public service, and worked without ceasing to effect the rescue of the wounded, and to supply all the necessities available for saving human life. Recognizing the readiness of service on the part of other institutions, it is not unfair to give especial praise to all those connected with the Broad Street Hospital from the Superintendent to the elevator man. To all must credit be given for their share in the accomplishments of a humane purpose that serves as an antidote in thought to the barbarian impulses that gave rise to the crime.

It is difficult to know when danger is imminent, but there is a subconscious feeling of ability to face perils in the presence of organization that is capable of rapid expansion to meet every need of a community. Hospitals occupy a peculiar place in communal organization in that as a rule, they are dependable instruments for human assistance. The spirit that characterizes hospitals represents the best elements in human character. It symbolizes the positive efforts so essential for the improvement of mankind. Quietly and unostentatiously hospitals proceed to offer their opportunities and sympathies to the afflicted, without seeking praise or flattering approbation. The saving of human life, and the improvement of human welfare are their reasons for existence and constitutes their goal.

Hospital Work Not Sufficiently Appreciated.

—In the days free from unusual stress the work of hospitals claims no particular notice. The general public scarcely appreciates their efforts and their benefactions. It requires some dramatic occurrence to stir the populace to a realization of the

tremendous part they play in communal affairs. The daily accidents given ambulance treatment and hospital care attract the inquisitive crowd who then forget the true significance of the service offered.

The thousands of persons passing daily thru hospitals attract little attention, save from the families and friends of the individuals under treatment. An explosion, a fire, a flood, or an earthquake, bringing in its wake a multitude of individual sufferings arouses public opinion and stimulates interest in the agencies immediately called upon to care for those who have suffered. It is the magnitude of the occasion that develops a new psychology of the mass. It is at such times that hospitals stand forth as effective civic institutions. Public approval blesses the institutions that respond to humanity's call, and bring comfort and relief in so far as is humanly possible.

For this reason, the Broad Street Hospital now occupies a higher position in the community than it did before it had this particular opportunity to evidence its civic usefulness on a large scale. As a result, funds are being set apart for the improvement of its plant, and the development of its physical equipment. The need for this monetary aid antedated the catastrophe, but the public had not been awakened to the great value of this hospital to the city.

The reaction of the community towards the Broad Street Hospital should be reflected in favor of all hospitals, whether general or special in character. It should not be necessary that a community suffer a terrific wastage of human life and blood, in order that there be an understanding of the advantages of hospitals and ambulance service. It should be part of the boast of every municipality that it possesses a realization of the function of hospitals and that,

in consequence thereof, it provides amply for their maintenance. Municipal hospitals are fairly well provided for thru municipal taxation, in so far as their numbers are concerned.

Their number, however, is so inadequate that there continues to be a necessity for private and semi-public institutions which can only be established and maintained thru the financial assistance of individuals and corporations conscious of their essential values. Such funds are consecrated to a community. Practically every hospital is potentially a Broad Street Hospital, ready to demonstrate its effectiveness in time of disaster, while patiently serving day by day the needs of even greater multitudes than are suddenly thrown upon it by catastrophic incidents.

We may congratulate the Board Street Hospital upon its demonstrated fitness, its usefulness, its fulfilment of the highest traditions of medical skill and sacrificial devotion to duty. New York City is fortunate in possessing such an institution, and honors itself in giving assistance to its further progress. The medical and nursing professions constituting the staff of all hospitals merely contemplate the moment of stress and move on to the continued attainment of greater power to serve their communities. Let the communities give more thought to their hospitals, which ever are prepared to devote their best thought and energy to them.

The Diagnosis of Incipient Tuberculosis—The determination of tuberculosis is too frequently left until the sputum reveals the infecting organism. Under this system much valuable time is lost, and not infrequently the welfare of the patient is jeop-

ardized. There is every reason for promptness in diagnosing tuberculosis, because of the more rapid and satisfactory results in treatment that are attendant upon this early recognition.

There are no special symptoms diagnostic of incipient tuberculosis. Every subjective and objective evidence considered individually, may be present in a number of other diseases. There is, therefore, a great value in appreciating the conjunction of a number of signs and symptoms, which together are highly suggestive of the tuberculous state. The National Association for the Study and Prevention of Tuberculosis, recognizing the importance of determining the tuberculous state during incipency, has established some standards which merit consideration, even tho the items referred to are not new. Among the significant conditions meriting investigation are to be included, loss of weight, loss of strength, fever, elevation of the pulse, hemorrhage, family history, exposure, cough, hoarseness, and the presence of sputum.

These terms require a definition in order that they may possess the fullest significance. Loss of weight, for example, is interpreted as meaning an unexplained loss of weight of at least 5% below normal limits for the particular individual, within four months time. Loss of strength connotes undue fatigue, and a lack of staying power unusual for the individual patient, and not satisfactorily explained. Fever is constituted by a temperature persistently over 99.4° when taken by mouth at least four times a day for a period of one week.

A family history of tuberculosis is not of importance unless the suspected patient has been in intimate contact with the disease, and exposure has been prolonged.

This is especially significant when tuberculosis exists in immediate relatives with whom the individual may be living, or for whose personal care there may be a direct responsibility. The stress is placed, therefore, more upon exposure, particularly during the period of childhood, than upon the mere fact of a family history of tuberculosis.

The standardization of ideas concerning this common disease is productive of greater uniformity in diagnosis, and should lead to a more complete detection of tuberculosis suspects in communities. The benefits are well exemplified in the Framingham experiment, undertaken by the National Association for the Study and Prevention of Tuberculosis. This community survey has been successful, particularly in revealing those with incipient tuberculosis, and in discovering a number of individuals who might be regarded as being in a pre-tuberculous state and, therefore, amenable to prophylactic treatment, insuring a speedy return to health. An extension of the methods employed to other communities would mark a great advance in the control of tuberculosis, and would result in a marked decrease of morbidity, as well as an astonishing lowering from this cause.

To await formulating the diagnosis until tubercle bacilli appear in the sputum is not merely undesirable but hazardous for the patient. The radiographic information now available is of considerable advantage even during the early stage of the disease tho the difficulty of a correct interpretation of the radiographic picture does not make it thoroly dependable. Clinical diagnosis continues to be of paramount importance and not secondary to laboratory examinations, which may not disclose tubercle bacilli until the disease is advanced.



The Danger of Advertising Potent Remedies to the Laity.—Every now and then we hear the medical profession critized for its objection to the advertising of internal remedies to the laity. This attitude of medical men is variously attributed to greed, jealousy, fear of loss of practice and so on, and the profession is held up to all manner of contumely and condemnation for its supposed selfishness.

The recent appearance of lay advertisements of a standard make of yeast, after a year's campaign of advertising to the medical profession, exemplifies so well the objectionable features which medical men complain of in such a course, that we cannot let the situation pass without pointing out the evils presented.

First of all, as a result of painstaking investigations and researches by scientific men of the highest ability and reputation, the therapeutic value of yeast was determined and their findings were printed in the *Journal of the A. M. A.* and other high-class publications.

The firm whose preparation of yeast was used in ascertaining the worth and utility of this product in medicine, immediately inaugurated a campaign of publicity to the physicians of the country. This included advertising in the best medical journals and the distribution of circulars giving the conclusions of the scientific men who had proven the value of yeast. The methods employed were conservative and dignified. The clinical data provided were free from extravagant claims, and coming from professional men of known scientific attainments and the highest integrity, it was only to be expected that the physicians of the country would be sufficiently impressed to give yeast a careful trial. We believe we can say without fear of contradiction, that the conclusions and claims of the investigations referred to, have been confirmed, and yeast has become established as an exceedingly effective remedy for such conditions

as acne, furunculosis, various chronic skin affections, diabetes, certain forms of renal disease and numerous other ills due to defective or perverted metabolism.

But valuable as yeast has been found to be in certain well-defined conditions, it is not a cure-all, and careful, discriminating physicians have learned that the product must be prescribed with intelligence and caution, not only to secure satisfactory results, but to avoid doing actual harm. In other words, experience in the use of yeast, and observation of its action and effects, have shown that while it is a very potent remedy under certain conditions, it may prove exceedingly dangerous and injurious under others. For instance, in various stomach and intestinal ailments, yeast, with its highly active ferments, may set up or aggravate certain very serious processes. In the presence of gastric, duodenal and intestinal ulceration it may do great harm. In certain cardiac troubles complicated by gastric disorders, in which the sudden and extreme formation of gases in the stomach may seriously jeopardize a patient's life, yeast is to be avoided. Various other conditions, which observing medical men recognize as contraindicating the use of yeast, might be given, but the foregoing are sufficient to show that a physician's knowledge and judgment are absolutely necessary for the safe and proper use of this important and useful remedy.

The exploitation of the medicinal virtues of yeast to the public is most regrettable, therefore, for it presents in a very positive way many of the dangers, if not the evils, of lay medical advertising. The advertisements we have seen thus far have been conservative, truthful and in accord with the facts. It is true that each advertisement recommends consulting a physician. A warning suggestion is also given to those troubled with gas to kill the yeast ferment with hot water before taking it. But few if any other precautions are given, and no advertisement however well prepared could tell the layman when he should, or should not, take yeast. No advertisement can give the knowledge of diagnosis, or the ability to recognize obscure bodily conditions that are essential to decide when it may be used and when it should be avoided. As a consequence, these lay advertisements mean the widespread promiscuous use of

yeast. Many will be benefited, but not a few will suffer serious harm. The people who have chronic ailments and are always looking for new remedies, will take it with avidity, no matter what their trouble, nor how little they know concerning the pathologic conditions in their stomach and bowels.

If they fail to get the results they seek and anticipate, or the effects are unsatisfactory, or worse, they immediately condemn yeast as a remedy, and do all they can to discredit its use, even when ordered by a competent physician.

This very thing has occurred in two instances that have come under the writer's personal notice. One was a case of duodenal ulcer, and the other a case of chronic gastritis complicating a mitral lesion of the heart. Both used yeast "without rhyme or reason" on the suggestion of the newspaper advertising we have referred to. Both suffered grievously, and dangerously, from taking yeast as directed, but with no exact realization of their conditions or the contraindications to the use of this product. Instead, however, of blaming their lack of judgment and common sense, the onus was placed entirely on the yeast.

In conclusion, we believe that the majority of physicians will agree that we have fairly stated the reasons why the medical profession is so opposed to the advertising of potent internal remedies to the laity, with its constant invitation to self-medication.

It is the public that suffers the real injury, not the profession. The doctor has nothing to fear, but he does hate to see the ignorance of the public taken advantage of.

Finally, there will be especial regret felt by medical men generally concerning the advertising that forms the basis of this discussion, for it will be a shame to have a product as valuable as yeast has promised to be, when wisely and properly used, discredited by being employed by laymen who will use it promiscuously and under conditions which make it unsafe and not infrequently extremely harmful.

Telephoning the Dead.—The press of the world has leaped to the bait of Edison's announcement that he was perfecting an instrument which would decide definitely

whether there was such a thing as a spirit world and whether it was accessible to us humans. But perhaps for the first time in the great inventor's career, the press has failed to deal with proper dignity and respect an announcement from the great man who has produced so many modern miracles. The press has preferred to deal with the matter in a humorous vein. This is perhaps due in a large part to Edison's unfortunate choice of a medium for communicating with the dead—a telephone instrument. No man can refer to that instrument, after the experiences of the past year or two, without treating the subject humorously in order to escape the tragedy of it. Thus, a French paper publishes a cartoon showing a man with a broad mourning band on his sleeve and a tragic expression in his face. "Isn't it just my luck," he says to a friend. "Just as I was congratulating myself on getting rid of my mother-in-law at last!" But, however unfortunate such a means of communication may be for the living, it would be infinitely more disappointing to the dead. Imagine the departed, their spirits calmly swinging from sphere to sphere, enjoying the calm that has come to them after the wearing trials and tribulations of life on earth, grateful for their escape from terrestrial noise, odors and ugliness. Imagine them suddenly roused out of their calm by the tinkling of a telephone bell—the last abomination they could expect to follow them to their new abode. To those departed who shook the dust of the earth from their garments only recently, memories of earthly agony over their telephones would cause them to flee to the farthest corners of the illimitable ether to escape a response. No celestial page would ever be able to find them, and the earthly communicant would have to be satisfied with the message: "Not in, sir."

So that it is more than likely that one will never know whether Edison has succeeded or not. His instrument may be perfect, but its unpopularity, on earth as well as in heaven, will work against its success. The wizard has announced that if his invention fails to get a response from the spirit world, he will feel convinced that there is no spirit world. That, we fear, is a too hasty conclusion. It is more than likely that the celestial service is as bad as the service in New York. "Many are called,

but few answer," is perhaps as good a motto for spirit as well as earthly telephone systems. Edison may ring, the spirits may even be willing, but how will he surmount the insurmountable obstacle of a central operator absorbed in the reading of an astral "penny dreadful" and too interested even for a polite, "Line is busy"? Operators are the same the world over, and ethereal operators are not likely to be an exception. Their flirtations with young male spirits in far off spheres will not be interrupted merely to satisfy the curiosity of an inquiring scientist on earth. And then, if they do respond at all, they are more than apt to give you the wrong number. It's that way in every-day life. And it won't be different in death. Why, therefore, the telephone, of all instruments? And just now, too, when there is every prospect of a substantial increase in telephone rates.

Boys Will Be Men.—A Scandinavian scientist estimates the total loss of life during the war at the appalling figure of 35,000,000. Of these, 15,000,000 were either killed or died of wounds. Among the rest, the largest loss of life is comprised in the fall in births in the various countries. Such a course in estimating the loss of life as a result of the war, by computing not only the positive but the negative element, is entirely justifiable. If this figure, one of the largest yet offered, comes nearer being a correct total than any hitherto ventured, it is because it takes into account the element of human desiderata and débris which is generally neglected. But no estimate can be complete without an effort to compute the havoc spread by the war among the children, a vast proportion of whom may ultimately come to figure in a list of losses. Starvation, inanition, impossible living conditions have put in jeopardy their physical, spiritual and intellectual growth and no small number of them are destined as a consequence to become merely a burden on the community, without offering it any contribution. Here lies one of the most vital sources of human loss. The boys of today will be the men, the citizens of tomorrow. What kind of men will they be, with this heritage of suffering and hardship stamped upon their stunted bodies? It is one of the

heartening aspects of this otherwise distressing situation that Europe is fully aware of the menace of this element of loss and is making prodigious efforts to shift the item from its debit to its credit column, to make these children an asset rather than a liability. A study of a recent report issued by the American Red Cross on conditions in the Near East shows, that while hospitals, dispensaries and other institutions are inadequate in number and imperfectly organized and equipped, the orphanages everywhere are numerous, are in many cases excellently conducted, and present almost model living conditions for the children. It would appear from this report that the authorities everywhere are aware of the importance of the reclamation of the children and, where means are at a minimum, are giving their maximum toward that end. And it is to the credit of the Red Cross that it is bending all its energies and giving all the moral and material aid at its command to encourage this most vital aspect of reconstruction, even placing it before hospitals and feeding-stations in point of importance.

Nullifying the Vote?—In every election there is a considerable proportion of the voting population which does not go to the polls. This element has always been the despair of conscientious citizens who regard the vote as a sacred institution and duty. Many of these non-voters fail to respond to their duty and privilege from indifference. No small number fail to exercise their privilege from sheer despair. They are the pessimists who have succumbed to the disheartening conviction that democracy is a farce and they will have none of it. Statistics of the current election, particularly in New York, will be sure to show an increase in the number of those who remained away from the polls because of this pessimism, a pessimism which has been more than justly accentuated by the latest outrage in Albany. Five men, regularly and lawfully elected by their constituents to the legislature, were ejected by their colleagues. All the five were re-elected. Three of them were a second time ejected, the other two resigning as a protest against the treatment accorded their comrades. This, too, in a state and a country the laws of which have been adroitly de-

signed to protect the spirit of democracy and to preserve the healthy element of a dissenting minority. Democracy has never we believe, received a more deadly blow, and it will be a long time before the stain of this abominable and inexcusable act will be removed. At the time of the first ousting of the five Socialist members from the Assembly, the best spirits of the country protested, rebelled, remonstrated with the perpetrators of the outrage. Even the most conservative elements in the community saw the danger of such a precedent and warned against such an outrageous violation of the spirit of democracy, of political decency. Their warning remains unheeded and once more the five men are without their seats, once more a large group of Americans are without the representation to which they are lawfully entitled. Once more a small group of men without vision and without ideals have added their contribution toward the demolishing of a great institution of free government which its original founders so carefully and so splendidly conceived. The principle of democratic government is one long step farther removed from its original conception.

We do not agree with the political principles of the ousted members, but we should not consider that just ground for their removal. The Democratic and Republican elements are not as one, but that is not sufficient ground for the ousting of the one by the other. But is it a long step from the ejection of the Socialists to the ejection of any minority? The men were not removed because of inefficiency. Their reelection, besides, proved beyond cavil that they were loyally representing the wishes of their constituents, that they were expressing their views, executing their orders. And the will of the people is (certainly it should be) inviolable. They are entitled to whatever representation they elect. That is one of the inescapable fundamentals of democracy. But there is no question here of fundamentals of government. Unfortunately, the issue is much more trivial—and much more distressing—than that. All non-partisan reports of the activities of the ejected members in the Assembly show that they have been extremely active, extremely conscientious in the discharge of their duties, which they have taken seriously. And their zeal, their energy, their incor-

ruptible devotion to the interests of their constituents have been a source of constant discomfiture to their colleagues. About two years ago an effort was being made in an up-State town to consolidate several gas companies into a single corporation. The lawyer for this enterprise was a member of the legislature and he presented the bill, urging its acceptance on the ground of economy, such a consolidation removing competition and making possible a cut in the price of gas. One of the ejected members fought this project bitterly, scenting a monopoly and an increase in the price of gas as the ultimate object. After several weeks of such opposition, a gentleman in a top hat and smoking an expensive cigar called at the office of the opposing member and frankly acknowledged his interest in seeing the bill go thru. "Every man has his price, Mr. W—," he said. "We're practical men. What's yours?" The assemblyman thought a moment. "Yes," he said, "I have my price, like every man." "Well, what is it? Five thousand, ten thousand—mention your figure." "My price," said the ejected assemblyman, "is this: turn the gas property over to the people."

This incident, which is authentic beyond any doubt indicates perfectly how uncomfortable such a stubborn, unbusinesslike, unpractical member of the legislature must be to his more practical colleagues. Such bad politics is naturally intolerable. Such a lack of pliancy is insufferable in a man of the world. There is no place in the Assembly of a great state for such a man.

Our Cover Picture.—The illustration on our front cover depicts the care and attention being paid nowadays to the mouths and throats of school children. Too much credit and commendation cannot be given to our school teachers who are inculcating the principles of personal cleanliness and health in the minds of the children, under their care. Knowing today all that we do concerning the relation of clean mouths and normal throat conditions to the prevention of disease, we cannot help but see a constant improvement in the health of our nation as a consequence of the emphasis being placed on these matters in our public and private schools. Every medical man should support this line of work and go

out of his way to keep in touch with the advances that are being made in school hygiene in his community.

Psychopathia Commercialis or Just Plain Greed?—In some parts of the world it is a common custom for a wealthy man to sell off any of his wives that he finds he can dispense with to advantage to himself. In certain African circles this is a usual occurrence and doubtless in those countries there is much to be said in its favor. But society will hardly allow it to become a regular procedure in Occidental countries. Now and then a man may show a commercial instinct so perverted or overgrown that he will look on everything, even his wife and progeny, from the standpoints of barter and trade. A recent case of this "psychopathia commercialis" occurred in Chicago where a man, according to the *Urologic and Cutaneous Review* (Aug., 1920), sold his wife and two children with his furniture for \$75.00. He had lost all interest in housekeeping and offered his furniture to two men who suggested he throw his wife and children into the bargain. This he did. He tired of his bargain and consulted the police. The wife, who had gone willingly, returned to him with the children.

Selling of wives is not uncommon in the British Isles. It forms the motif of Thomas Hardy's novel, "The Mayor of Casterbridge." "The common usage prints its lessons so deeply in the common mind," remarks Jefferson, "that centuries are powerless to obliterate them. The practice of bartering wives, a practice traceable to marriage by purchase or at least to obvious deductions from that mode of matrimony, taught our commonality to imagine the husband has a right to sell his wife provided the sale were made openly and his wife sanctioned the proceeding by silence. He might not, it was imagined, dispose of her by a secret sale because in that case, there would be no satisfactory evidence of his wife's consent without which their partnership could not be dissolved. But if she accompanied him to market voluntarily and allowed herself to be sold with a halter around her neck, no injury was thought to be done her, since her acquiescence in the proceeding declared her readiness to part with her proper husband and become the conjugal partner of her purchaser."



OUR HERITAGE.

BY

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This subject might be discussed from many viewpoints. The aristocrat might dilate upon the distinction of his family name with its long line of noble exponents. The landed proprietor might boast of his wide acres and numerous tenements, accumulated by the thrift of prudent forebears. The artist might descant upon his inherited temperament; the woman upon her inherited pulchritude. The citizen of a great republic might be excused for his boisterous appreciation of the matchless gift of freedom won by the heroism of sturdy predecessors. When the Englishman sings "Rule Britannia" he is expressing the same sentiment. When the physician, however, speaks of "Our Heritage", he has in mind a broader conception of the acknowledgment we owe to our lineage. He goes back of the social and racial differentiations and arrives at the common source of humanity's physical weal or woe. This may be summed up in two words: protoplasm and propinquity.

The Primal Cell and Its Environment.

—Whether we be patrician or plebian our bodily health, and in a great degree our spiritual expansion, depend upon the reaction of that protoplasm to its propinquity; upon all the influences exerted on it, during all the ages of its reciprocal pressure against inimical forces. As we stand today we are the product of the bruising struggle for existence, imposed, as the theologians say by the fall of Adam from the state of perfection; imposed, as the evolutionists say, by the painful progress of man from a lower to a higher degree of development. Whatever be the truth of this, the essential fact stands out that we today are that protoplasm modified beneficially or injuriously by the qualities acquired from the moment of its creation to the moment of its transmission to us in the womb.

This is Our Heritage. We are the product of the remotest cave man. We are the product of the most recent intellectual. We are a mixture of the grossest barbarism and the finest civilization. We are all gradations between. Depending upon our own reaction to our environment we display the tendencies that are our particular inheritance. We become the torturer or the martyr! We play the hero or the poltroon! We descend to the infamy of German Kultur or rise to the sublimity of its wonderful opponents. Man has been called the microcosm. More appropriately were the term

applied to the ultimate cell from which he draws his being, for in that ultimate cell lie his health, his hope, his power to achieve; to rise superior to the obstacles encompassing him. Within that cell, too, lie his death, despair, failure to achieve and to master his environment. We see repeatedly the various members of a family terminating existence at about the one age. They live along in apparent good health until the allotted time has expired and then something goes suddenly wrong and the machine, like the wonderful one-horse shay, goes to pieces all in a day. Unaccountably, too, for in many a case of the kind there had been no precipitating vice or hardship. Equally unaccountable is the century of euphoria enjoyed by the wastrel who contends that it has been due to continuous indulgence in cheap whiskey and strong tobacco.

Shakespeare has said, "Men at some time are masters of their fate." Within narrow limitations this may be true, but most of the time they are blind executives of imperial protoplasm. This makes for the dominating influence of heredity over environment. Who doubts this except in so far that environment may influence the heredity of our successors? The man as he is does the things that he is urged to do by the pressure of his lineage. He transmits to his offspring the same pressure modified by the resistance it has encountered during his lifetime. If his qualities have had opportunity for expansion they will be transmitted in fuller measure. If they have been repressed by circumstances they will be dwarfed and altered upon their reappearances in succeeding generations. The contenders for the mastery of environment over the impulses of heredity ignore many noteworthy objections. The subject will

act out his lineal characteristics. His struggle to do this may alter those characteristics in his descendants, but not in *him*. Repression under duress may make a slave of his son, but it makes a sullen rebel of *him*.

Do the accidentalists (whom we may thus denote in view of their adherence to the theory of the environmental or accidental determination of character and conduct) dispute the transmission of dominating and distinguishing qualities in cattle? Do short-horned cattle ever develop long-horned individuals? Do snub-nosed bull dogs ever develop lean-snouted hounds? In the human race are not parental characteristics or at any rate family characteristics constantly transmitted to succeeding generations? Does not red hair, for instance, reappear with persistent and unwelcome regularity? Does not the Roman nose aside from its Hebraic prodigality distinguish certain Gentile clans or strains? If physical peculiarities are undeniably hereditary, why contest the transmission of psychological peculiarities? Why assert that the red hair is not accompanied by a fiery disposition when the association has passed into a proverb? Why impeach the validity of the relation between the steely blue eye and steadfast courage? Why discredit the possession of aggressive self-assertion in the bearer of a square-set jaw?

It is a matter of universal tradition capable of unlimited demonstration that mental, psychical or spiritual qualities accompany certain bodily conformations. Heredity is as obvious in the one case as in the other. It is readily deducible that we inherit our resistance to disease as well as our resistance to vice; or our susceptibility to disease as well as our susceptibility to vice. We thrust against our environment and are

vanquished or victorious according to the nature of our protoplasm. We are beaten at the start if we are the children of weaklings, and we pass on to posterity an exaggerated incapacity.

Atavism marks the eccentric operation of the law of heredity, in that peculiarities somatic or psychic, are dormant in several intervening generations. It really emphasizes the fact of inheritance. It shows that despite the submerging of characteristics by anomalous circumstances the potentiality was always present and lost none of its vigor by temporary inactivity. The lightning flashing from mountain peak to mountain peak is a mightier force than the humdrum stream in the valley. The lightning is episodic and interjectory. The running water is smooth and inconspicuous. The lightning passes over immense intervening spaces. The running water touches at every point on its course. Yet there is no comparison in intensity of force and accuracy of aim between the two mighty elements.

This protoplasm of ours whether we conceive of it as the source of our existence or whether we resort to theology for a vivifying soul, represents in each one of us *His ego*. The microscopic particles from which we begun "in the wide womb of uncreated night" constitute *you, me* and every other human being. This protoplasm has been gathering impressions during the eons of the scientific descent of man or during the reasonably protracted course of the biblical chronology. Either choice leaves us with a respectable genealogy. Five thousand years are long enough to acquire quite an imposing history.

During this period (whichever view we favor) our protoplasm has been taking on characteristics which have culminated in us. Whether we have struggled up from

primeval barbarism or have fallen from primeval perfection into intermediate barbarism, certain it is that barbarism has left its impress on our heritage. It is true that we are gradually submerging this trait in a painful evolution towards higher ideals but as an instance of the persistence of aboriginal brutality despite the veneer of a superficial civilization, the German manner of making war may be appositely mentioned. Individuals display this quality as well as nations. But in point of fact nations are merely concepts of individual cohesion and the conduct of nations is the sum of the conduct of its units. Nations do not ravage, outrage and destroy. Men do that, in the name of nations. Individuals in nations which do not in their collective capacity practice brutality may do so on their own account. We are acquainted with the lapses in our own communities, in our own neighborhood, perhaps in our own families. We have knowledge of the wife beater, of the child ravisher, of the house burner, of the drunken, roistering bully, who kicks the face of his prostrate victim. Crimes have come home so closely that we shiver lest the barbarism of a cousin perhaps may cast suspicion upon our own protoplasm. It humiliates and chastens us to realize how little removed we are from the contamination which we abhor. In the main, however, it should cheer us to note that the even orderly and seemly progress of our heritage is in the direction of better things. Our ancestors in predominating numbers have steadily made head against their unpromising surroundings and with backslidings of more or less consequence, have gone forward to ever greater heights of moral achievement.

There was a day when *vae victis* was the rule in warfare. Even the highly cultured

Romans killed their prisoners, some at the time of capture, some at a later date in the inhuman sports of the circus! They sacked cities, ravished women, exacted crushing tribute and in every way made the lot of the conquered, wretched. Down thru the ages of Christian civilization a slow improvement occurred in the manner of waging war and some consideration for the loser began to develop. It is true that under the incitation of religious hatred horrible massacres and relentless persecutions characterized by every species of ingenious cruelty, marred and retarded the march of spiritual enlightenment. These may be postulated as atavistic, as the lightning flashes from the mountain tops revealing the steady tide in the river of progress. In our latter-day civilization nobody has conducted warfare on those barbarous lines except the Germans and the Bolsheviks. To the massacres and the ravishings and the merciless executions they added one distinguishing horror of their own, namely, that of killing and maiming babies!

It has been offered in extenuation of the outrages of these twentieth century savages, that the impulse was in their protoplasm and was therefore irresistible. Maybe, but let us not forget that protoplasm is affected by the pressure of environment unto the modification of future generations and that in order to beget a German race of tolerable qualities it is necessary to impress upon the Germans of today the unprofitableness of the course they chose to follow. If the lesson is not bitter it will be fruitless. If by trickery, cajolery or whining pleas for mercy they succeed in avoiding the full measure of retribution that is their due, they will have come thru the ordeal practical victors over their desolated enemies and will leave to posterity the im-

pulse to repeat their devilish performance. It behooves us to mark the German protoplasm with the ineffaceable dread of the wages of sin. If they ever again feel the stirring of *weltmacht* within their chastened souls, let it be held in check by the vivid recollection of the stunning atonement exacted in the year one thousand nine hundred and nineteen. The scourge of justice in the hands of the victorious allies must leave welts upon the hide of the Teutonic beast that will effectually cow him not only to the third and fourth generation, but as long as the memory of man runneth not to the contrary. That (to reduce the legal phrase to everyday English) means as long as memory lasts. As the memory of society is its printed records the chastisement must needs be extremely severe to produce this salutary result.

On the physical side determining in great measure also our psychical character our heritage has been complex and varied. As medical men we are more directly interested in this phase than in any other. The great problems of the preservation of health and the eradication of disease are intimately associated with the hereditary transmission of tendencies, susceptibilities and direct infections. We have seen that what we are is the consequence of what our forebears have been. We have no knowledge of the origin of disease *de novo*. Unless we concede the eternal existence of (let us say) the typhoid bacillus, we are forced to admit that it must have originated some time either *de novo* or as a variant of something else. We do not know how long this germ has been operating upon our protoplasm. We do not know to what extent it has been influenced in its evolution. It is a favorite aphorism of the pathologist that most diseases are not inherited. Confronted with

the undeniable inheritance of syphilis, he cites this as an exception that proves the rule, but he denies the inheritance of tuberculosis. Despite the enormously preponderating experience of mankind to the contrary he adheres to his denial. He claims that the occurrence of tuberculosis in family lines is due to the transmission not of actual disease, but of weakened resistance to post-natal assaults of the bacteria. If the development of tuberculosis is inevitable under these circumstances, it really makes little practical difference to the individual or the race whether we call it heredity or acquired disease. It is all one whether the child comes into the world already infected or foredoomed to the acquisition of the infection. Even if an additional step is interpolated in the process, the child succumbs to a faulty heredity. That is incontrovertible. It is feebly assailed by the accidentalist on the ground that all the children of tuberculous parents do not develop tuberculosis. He claims that environment offsets successfully the weakened resistance. If by environment he means one free from tubercle bacilli he is making a logical argument. But if he postulates the successful struggle of weakened resistance against the attack of the tubercle bacilli he is talking arrant nonsense. The cases of individual escape in family infections are cases of atavistic endowment with normal resistance. Thus the typhoid bacillus with which this argument was begun may have done its share to mar our protoplasm. Arising no one knows where or how, it may be the product of other bacilli whose activities have ceased or have been shrouded in obscurity. Its effects upon the organism may not end with the closure of the typhoid drama. We recognize complications prolonging the con-

valescence of those who have survived it. These show that the evil influence extends beyond the term of acute manifestations. May it not prove to be indelible and to modify definitely the nature of protoplasm? May not chronic diseases whose etiology has eluded us, be traceable to the same or similar modifications?

The whole question of etiology is, with conspicuously rare exceptions, a thing of shreds and patches. We know a fact here and a fact there, but of any orderly and logical explanation of the origin of disease we are utterly ignorant. We have gone into ecstasies of self-approbation over the discovery of certain bacteria. To listen to our bragging one would imagine we had probed to the bottom of the matter and had cleared away all uncertainty. The truth is that where we have discovered a germ we have only scratched the surface of causation. The germ will not cause disease without a fruitful soil any more than the proverbial seed of the Bible would germinate upon a rock. And the susceptibility to disease is a more important factor in its incidence than the exciting cause. Of this susceptibility we can speak only in the vaguest generalities. We do not know what it is. We discourse of its dependence on the internal secretions. But if we get to any intelligible conception along that route, we are no nearer light than before because what constitutes the internal secretions? Protoplasm. And there we are back to the impasse thru which our most ambitious thrusts fail to make a breach. We are confronted by protoplasm, our heritage, the figment of our own brains for the elucidation of our physiologic problems. In the physical sense we can never get beyond this for it makes no difference how far we may follow matter up; even in the ex-

trement refinement of its essence it will still be matter. And it is inexplicable how it can contain all the potentialities, resulting in its almost limitless expansion, variations of type and dynamic evolution. If we resort to metaphysics and postulate a soul we are in a more favorable position to explain the otherwise incomprehensible development of man. An animating principle outside of and above the ultimate cell may reasonably be endowed with qualities that cannot be predicated of matter even if it be refined to the utmost extreme of tenuity. Thought is immaterial; boundless; unconfined by physical barriers. It will scale the empyrean. It will sound the depths of ocean. It will instantaneously gird the hemispheres outrunning electricity or light. The flash of the wireless operator sending out his S. O. S. is immeasurably behind the thought that impels him. Can matter which cannot possibly evolve the immaterial be the progenitor of immaterial ideation? Can a river rise beyond its source? Can atoms, or if you please ions in vibration, produce anything higher than atoms or ions? Can any combination of material particles produce anything immaterial? The highly elaborated scientist denies that there is anything immaterial. Then he must deny the existence of thought. No one may handle it; no one may control it; no one may see it; no one may feel it; none of the tests for determining the presence of the most imponderable matter are of the slightest applicability here.

If it is asserted that it is impossible for the mind to conceive of a soul without parts and indivisible, above and beyond the physical structure it is supposed to animate, then we are forced to the remarkable reduction as absurdum that the human mind cannot conceive of the product of its own

activity, namely, logical abstractions. We shall leave to the dialecticians the pursuit of these engrossing subtilities, and shall recall ourselves to the discussion of our pathologic heritage. If protoplasm had descended to us unmarred by the scars of disease, our business as physicians would never have originated. Old age and accident then constituting the only manner of man's taking off, a surgeon or two might comfortably minister to the wants of a community. But protoplasm has descended to us with many bars sinister; it has been altered and debased by its struggle for existence. The impression of every succeeding malady has had an influence in modifying nutrition and determining reaction to extraneous processes. Immunity to certain diseases may have been acquired at the expense of structural deterioration. It has been said that the older civilizations have been immunized to syphilis to a large degree; that is to say, that because of the tragic experiences of our forefathers we are liable (if at all) only to a modified infection. The virulence of syphilis on the so-called virgin soils is cited in support of this. Aboriginal races infected by the white invader are overwhelmed by the intensity of the toxemia. Yet curious to relate, the two sequelæ which make syphilis dreadful are rarer by far in these races recently contaminated than in the older and partly immunized races. Paresis and tabes, for example, are inconspicuous among the negroes and the Indians. These are the two developments that constitute the real calamity of syphilis. If civilization has become partly immune to the other ravages of the disease only at the price of such horrifying consequences, the exchange has been a decidedly unprofitable one. Our heritage in this particular is undesirable in the extreme.

How are we to explain the yielding of the nervous system to the devitalizing action of an attenuated infection? Does it not seem illogical that the resistance engendered by racial habituation should be accompanied by increased susceptibility of the brain and cord? It will be answered that in the newer fields the destruction is so swift and general that there is no time for the slower developing nerve involvement. Yet why does not the intensity of the fresh infection bring about more *speedily* the usually *tardy* consequences of the time-exhausted malady? Is not this vulnerability of the nervous system part of our heritage? Is it not a condition created by previous syphilization depraving the most highly organized and sensitive tissues in the economy? The immediate descendant of the syphilitic parent may present a saddle nose and Hutchinson's teeth and chronic iritis. If under treatment he survives he will probably marry in spite of any remonstrance on the part of medical advisers. *His* descendant may present less conspicuous, but thoroly characteristic markings. *His* descendant may be superficially indistinguishable from a normal child, but as time goes on reveals a mental deficiency commonly linked with the adjective "backward." As procreation progresses the attenuation of the infection in successive generations results in a cessation of demonstrable evidences. But who is to say that the delicate cells of the neuroglia are not receiving an injurious impression from the vitiated protoplasm? How many nervous diseases are we forced to put in the fatherless class? Do we know the etiology of (let us say) epilepsy? (Jacksonian aside.) Do we know the etiology of paralysis agitans? Of Landry's paralysis? Huntington's disease? Progressive muscular atrophy? Friedreich's ataxia?

Syringomyelia? By analogy to locomotor ataxia may we not fairly suspect a similar origin for these paralytic affections? The books are worse than dumb. The most significant suggestion is "heredity." Of what? Of a damaged nervous system? In the absence of trustworthy information to the contrary, may we not fairly attribute these damaged nervous systems to inherited lues? When it is proven that lues is the cause of ataxia and paresis we are not straining the probabilities in the least when we bring into the same etiologic influence these "Japhets in search of a father." That antiluetic treatment is powerless against them is of no consequence pro or con because it is powerless against the two admittedly luetic affections.

Take the various disfiguring tics which are such a source of embarrassment to the victim and of amusement to the callous onlooker. Note the man who winks; who screws up the side of his face in a hideous grimace; who jerks his head sideways; who frowns or breaks out in a repulsive grin. What of these obviously nervous derangements? Who can define the cause? They are commonly grouped in that absurd classification known as functional disease. There can be no disturbance of function without disturbance of the cells which originate it. Disease is always accompanied by disturbance of function. Disturbance of function is the consequence of organic disease. The organic disease does not necessarily mean *chronic* disease, altho it is usually accepted in that sense. Pneumonia is undeniably an organic disease but it is acute and short-lived. Acute nephritis is as clearly an organic disease as chronic nephritis. Anterior poliomyelitis, acute non-progressive, is as clearly an organic disease as posterior spinal sclerosis chronic and progressive. Shock

due to depletion of the adrenal secretion is as much an organic disease as the excitement of hyperthyroidism. To call it functional is as ridiculous an evasion of its ultimate pathology as the popular acceptance of "nervousness." We have got to recognize that when our muscles refuse to respond to our will because of terror, the cause lies in faulty action of the cerebral cortex. If that is not organic, what is? True, it may be a passing condition just like the pneumonia or the acute nephritis but it is a real organic failure of the cerebral cells to generate efficient impulses. So the whole category of "functional" nervous affections is likely referable to inherited instability or inadequacy of cortical substance where trauma is not a discernible factor. Knowing the destructive influence of lues upon the nervous system, it is not going too far a' field to suspect its complicity in the obscure "functional" disorders whose etiology lies in the broad lap of heredity.

It has been a proverb in neuropathology that alcoholism, epilepsy and insanity were hereditarily interchangeable. Alcoholism is here treated as a disease and not the wilful gratification of a sensual desire. But it is notorious that alcoholism is the hand-maiden of fornication, and fornication is the common source of syphilis. Hence we have good reason to add to the triad mentioned, a fourth and probably dominating factor. With lues read into the record the situation is greatly simplified.

There is a great deal of attention given today to the question of "high pressure," meaning from our standpoint high arterial pressure. Truth to tell it has become a bit of a fad with the doctors and an obsession with the patients. Everything inexplicable on any other hypothesis, is referred to high pressure whether it be clearer for this or

not. People are continually turning up with demands to have their pressure taken. They are so full of the matter that they will not wait for the physician to take the initiative. They insist on the test being made. Most of them are hypochondriacs and safely within the physiologic limits. Some of those who are really afflicted feel a sort of pride in their pathologic possession, and spread the news to all who will lend an ear. Years ago we had a plague of pan-hysterectomized women who boasted incessantly of their pelvic vacua. Today we have the high pressure addict who keeps a record of his sphygmographic variations and publishes them at every available opportunity. If the physician were properly impressed with the etiology of this circulatory exaggeration, he would not fail to warn the patient of the discredit accruing from a widespread knowledge of his condition. But the physician himself tottering between several causative hypotheses cannot convey to the patient a conviction which he does not share, and the patient goes blithely on his way ruining his own reputation or that of his ancestors. Syphilis is known to cause arterial sclerosis and high blood pressure. The so-called gouty kidney is also credited with a throbbing artery. But it has been stoutly maintained that the high pressure is an antecedent of the small kidney and that both are a part of the general arterial degeneration. If the kidney does not cause the pressure, what does cause it? Gout? This is a nutritional derangement upon a gluttonous indulgence in gamy food and alcoholic drink. Its prevalence is limited to those with the means to gratify such expensive tastes. I put aside the anomalous poor man's gout, which under the definition is a contradiction in terms.

Gout is said to produce calcification of the arteries because of its proneness to make tophaceous deposits. These calcified arteries are presumed to resist the onrush of the blood so that greater cardiac force is required to maintain it. This induces a greater heave of the inadequate vessel and lacking elasticity it remains turgid and firm. This may explain the occurrence of high pressure in some individuals well on in years who have been persistently indiscreet *bon vivants*; but it does not explain its occurrence in younger people and in those who have not been able or inclined to follow a life of gastronomic self-indulgence. The arterial sclerosis of old age comes scarcely within the pale of discussion because it is the physiologic determination of existence in individuals who have survived the allotted three score and ten. A man is as old as his arteries, we are told; naturally, then, senility first shows itself there.

With the exception of the infrequent gouty etiology, the high pressure, which is so much in vogue today, must be ascribed to the operation of that other cause perhaps just as prevalent among the high-livers as the nutritional plethora but shared by numerous moderate and low-livers as an acquired or ancestral distinction. Lues the Great stands forth pre-eminently as the maker of high pressure. There was significance in the circumstances that iodide of potassium was prescribed for this condition before its luetic association was made out. It is still prescribed even for the "gouty" variety. Somehow, under the "Providence that doth shape our ends, rough hew them as we may", we were instinctively if blindly adopting the course in consonance with the real etiology. We might be astray in our formulation of the

case, but we are *there* with the indicated remedy. The regulation of diet to the exclusion of alcohol was of a piece with the medication. The regulation of the diet to the exclusion of animal food tended to placate the overwrought circulation by the withdrawal of another stimulant. The imputation of lues because of high pressure does not carry with it imputation of unchastity or even of innocent acquisition of the active malady. Much of it is doubtless a gift from our progenitors. The syphilization that is reputed to have rendered us relatively immune to the more spectacular ravages of the disease has been accomplished unquestionably at the price of protoplasmic deterioration, determining the structural alteration that gradually chokes off the blood supply. In the wake of arteriosclerosis and high pressure, comes apoplexy, thrombotic and hemorrhagic. We look for apoplexy as an end condition in the aged. We reckon on the senile changes in the circulatory system, and feel that here we are not dealing with disease, but timely dissolution. But what of the apoplexies in the middle-aged and even the comparatively young? What of the man of forty-five, the hardy type of mechanic who topples over in his chair and dies in stertorous coma? What of the hemiplegia occurring at forty-two, with no embolic vegetation from a damaged heart? These premature evidences of degeneracy should be classed with the transient amnesias and aphasias which we properly ascribe to cerebral lues. Perhaps it has been found in many of these precocious developments that there are no confirmatory evidences of syphilis. That will not put the case out of court because the contention is that the victims have been endowed with arterial systems damaged generations before by an

infection which has since exhausted its activity. The blood vessels furnished are of the short-lived variety. A man dies at fifty in accordance with the habits of his ancestors. Our blood vessels die at forty in consequence of the habits of our ancestors. The immunization which has rendered the white race liable to a much milder degree of luetic infection has indubitably shortened the average term of existence by deterioration of protoplasm. The white race has a crippling heritage in its syphilization. Figures will be forthcoming to controvert this position and show that the average term of existence is lengthening instead of shortening. But figures have a happy facility of adapting themselves to any decision desired. Skill in manipulation is all that is needful. Still the most cunning combination in the world will not remove the fact that arterial degeneration at forty is premature, and that the cause of it is widespread being nothing less than the racial immunization to ardent lues. To be sure, to phrase it correctly, it is not the immunization itself that does the damage but the long-continued struggle that precedes it. A man may not be damaged by having acquired the art of swimming, but he may have been very materially damaged in the process. Cardiac dilatation may be one of the consequences of his effort to avoid drowning. Insanity is regarded as a hereditary taint both by the laity and the physicians. We have noted how insanity, epilepsy and alcoholism are put in the light of cause and effect, indifferently and interchangeably in family transmission. We suggested the addition of lues as the originator of the other three, and the explanation of their rotatory occurrence. We are agreed that one particularly destructive form of insanity is induced by lues.

Paresis owns no mixed paternity. Lues is entitled to all the credit. We have seen the demonstration too often to question its soundness. None of the historically associated causes are ever operative in the absence of lues. Worry, privation, excessive venery, unnatural vices, working singly or conjointly, have never been able to reproduce the dreadful picture of mental decay which is under discussion. By degrees the process of elimination and better diagnostic methods enabled us to establish the etiology universally accredited today. Recognizing that we are prepared to draw some very reasonable conclusions, if we have a force at work in the human system especially pernicious to its nervous elements, it is fair to deduce that it may be responsible for other than parietic dementia. As it is not always possible to get the confirmation of the Wassermann reaction either because of its inexplicable failure to respond in perfectly obvious cases of lues, or because of the attenuation of the toxemia after generations of reproduction, it is not illogical to maintain the position here assumed with regard to insanity in general.

As the arteries have suffered from the self-indulgence of our forbears so have our cerebral cells of highest sensitization. They have lost the endurance to surmount external irritations. They yield to the pressure which they should resist. Given a serene existence free from the wear and tear of ordinary experience, free especially from the excitations of business or professional rivalry, and the alternating exaltation and depression of vinous dissipation; and the delicate balance of the insecure mentality may be preserved. The subject's cerebral cells will carry him at the pace at which he is going. But urge him along a bit faster; rattle his composure with defeat,

privation, or the dread of either; face him with a struggle for the things that should come easy; and the inherited inadequacy will speedily reveal itself either in frank dementia or the development of eccentricities. Delusions have been pronounced by the alienist as an attempt on the part of nature to put the insane in tolerable relation with his environment. Supported by his delusions, he may defy remorse, survive defeat, and endure hardships which would otherwise be crushing. Eccentricities might be defined as partial delusions; as mental obliquities less acute than delusions but just as actual and corroborative. Eccentric means "off center," a perfectly fair synonym for which in the vernacular is "off his base." Those who are eccentric are obsessed with some fixed idea. It may be ridiculous or it may be tragic. It may take the form of parading the streets in the winter time in a white silk shirt, coat on arm and hat in hand. It may take the form of the short-haired woman or long-haired man who dabbles in art or economics. It may be the impulsion of the dreaming fanatic who would tear down society to build up a socialistic despotism. Any deviation from the customary and accepted manners of a community is justly regarded with suspicion. Rational conduct is the sum of the experience of our predecessors. It is the standardization of public opinion. He who runs counter to this is eccentric—is "off his base" in literal English. Naturally these reflections do not apply to the fraudulent eccentric, who is playing a part to advertise his wares and put money in his purse. They apply most pointedly to the supporters and promoters of the various "isms" that arise from time to time to disturb our tranquility. Where these people are sincere they are deluded;

they are eccentric; they are "off center"; They are off the bedrock of hard common-sense which is the concrete wisdom of civilization. As in the Russian debacle, they have rushed headlong on destruction, so in all the countries infested with a similar cult, they are striving to extend the discredited and hateful rule. No explanation is forthcoming, except that some very designing and unscrupulous men are playing upon the "ism" of some very mistaken and impulsive men. Our heritage is emasculated by the sins of our parents which return to plague us a hundredfold. Civilization which is temporized with iniquity finds itself threatened by the vagaries of economic lunacy.

(To be continued.)

DAY DREAMS.¹

BY

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"Oui! Dormir et rêver! Ah! Que la vie est belle, quand un rêve divin fait sur sa nudité plevoir des rayons d'or de son prism enchanté."

The life philosophy expressed in the introductory quotation is based upon man's experience thru the ages. The parting wish of the young mother for her baby she has just rocked to sleep is: "Sleep well, my child, have pleasant dreams." Pleasant dreams are refreshing, stimulating, invigorating; unpleasant, painful, oppressive dreams or nightmares are exhausting.

¹ The thesis of this essay is as follows: Day-dreaming is of great benefit to the individual dreamer, hence to the community and to society, to the clamors of many a modern psychologist to the contrary notwithstanding. The day dream of the neurotic is a fitter subject for psychoanalysis than his night dream.

weariness, tiring out. Indifferent dreams have no effect upon the dreamer.

Night dreams are fleeting thoughts or rather phantasms. The dream represents a kaleidoscopic change of pictures without order or meaning. The sources of the pictures are either former sensations, stored away, and now recalled to memory, without order, or actual sensations perceived during the state of sleep, such as the dreams of the hungry and thirsty. Sensations, irradiating from the vegetative system no less than concepts, emanating from the higher centers, give rise to dream phantasms.

The machinery of the human organism is controlled by two central, nervous systems, the sympathetic or vegetative, and the brain, or the cognitive, systems. The sympathetic nerves preside over the visceral economy and are independent of the mind. The sympathetic or autonomic nervous system controls all the forces of circulation and metabolism. Ordinary trophism is controlled by the lower generic center. Its functions are transmitted from generation to generation intact, complete, instinctive in every animal and in man. The newborn infant masters all the nerves, muscles and glands dependent upon the sympathetic system in a no lesser degree than the adult. During man's intrauterine life, while he is passing thru all the stages of evolution, from the amoeba to the pithecanthropoid the sympathetic system is developed to perfection. By the time man leaves the womb the trophic nervous system is as complete as in the adult (Talmey, Love, p. 102, footnote). The cells of this nervous system act by themselves. They are primitive. These cells have a perfect memory but no initiative or will. They cannot think. They are characterized by reflex and automatic instinctive activities. They possess their

full functioning power at the moment the infant is born.

From the moment man leaves the womb to the time he enters the tomb the superior nervous centers, characterized by thought, reason, judgment and will, have to pass the road of evolution the phyllos has taken in its development from the anthropoid to man. The specialized thought or brain cells have no memory as the inferior, trophic nerve cells, at the birth of the child. But they have the transcendental faculty to react to sense stimuli, they are prepared¹ to receive sensory stimuli. This faculty to receive sensations necessarily antedates the sensations.² Pure perception, being a factor in the genesis of experience, was of necessity prior to experience. The sense organs as such do not observe, the mind observes; hence the mind must have existed prior to sensational knowledge. The preparation of the brain cells to receive sensations, the bestowal upon the cortex the ability to receive and store away mnemonic representations of stimuli were effected by the same eternal, infinite energy which directs and controls the course of the stars and the motions of the electrons. This energy of the electrons which has incarnated itself into the atom, molecule and element has also been instrumental in the endowment of these microscopic brain cells with sensitiveness or the faculty of perception, of receiving and storing up sensational stimuli. These stimuli are retained as mental pictures or concepts, recallable to consciousness, either to connected, logical consciousness of the waking state or to disconnected, bizarre con-

¹ They may be compared to photographic plates sensitive to the rays of light.

² Rays of light may strike a plate of glass till the end of time and it would not become a photographic plate for that matter. The mere exposure to sensation does not bestow the faculty to receive sensation.

sciousness in sleep.¹ This power of recalling concepts represents the faculty of memory. The power to recognize the source of the concepts is reason, and the power to arrange concepts for definite ends is judgment. The power to select and regulate concepts is will. When marked concepts overcome the will we are controlled by emotions.

In the first two or three years of his extrauterine life the infant stores up a vast sum of concepts by means of perception. Upon the basis of these stored-up concepts the child builds his articulate speech (Talmey, *AMERICAN MEDICINE*, Sept., 1919). It begins to think. Abstract thinking is done in words, and no animal devoid of speech can think.² The dog has memory. He has the faculty of recalling the concept of the whip which caused him pain. The dog has reason. He has the power to recognize the whip as the source which had produced the sensation of pain. The dog has judgment, also. He has the power to arrange concepts for definite ends. He will arrange the concept of the whip with the concept of a hiding place and look for this place to escape the whip. The dog has will, or the power to select and regulate concepts, and will run away from the whip. But the dog cannot think. Abstract thinking is done in words, and the dog has no

words at his disposal. He can dream in his sleep. Sleep dreaming is done in pictures. The night dream is a symbolic expression of almost any sensation, present or recalled, without any logical sequence or meaning. But the dog cannot day dream. Day dreaming is creative thinking and only man endowed with speech can think, day dream and weave romances where to escape from the miseries of everyday life. Sleep dreaming is done in pictures and all animals who possess memory dream in their sleep. The impressions treasured up in the memory pass by the mental eye of the individual not unlike the moving pictures in the show.

To these memory impressions are joined the constant emanations from the sympathetic system to enliven the show. The vegetative and cognitive systems are mutually interdependent. Every organ and structure in the body are represented in the brain. They are not all represented in consciousness except when the autonomic activity is disturbed and discomfort or pain results, but they are all represented in the brain. A sudden fright may force the bladder or rectum to evacuate their contents, a sad message may cause a sudden anorexia. On the other hand, an attack of indigestion is not conducive to pleasant thoughts, nor does a pain in the kidney promote logical thinking. Thru the connective fibers between the sympathetic ganglia and the vagus nerve, the two systems are in constant communication and influence each other. The irradiations from the vegetative system are thus constantly recorded in the higher centers and these records form a part of the building stones of the dream edifice.

The specialized cognitive brain cells are thus never at rest. The brain is thinking

¹ Sleep unconsciousness is not the absence of consciousness in the sense of a break of continuity of consciousness. It is only a cessation of a mode of activity. At awakening there is a resumption of the activity. Unconsciousness represents only the mode of concentration.

² Not only is abstract thinking done in words. Even in perceiving an object the natural tendency of man is to give it a name. In the perception of most objects vocal movements in the larynx are experienced. In aphasia the patient suffers a general impairment of his mental powers. Still the perception of things usually exceeds the use of words. The dog has a visual memory image of a thing without knowing its name. He knows the whip when he sees it.

continually, just as the heart is continually contracting and the lungs are continually breathing. Thinking goes on without stoppage like respiration and circulation. When the brain ceases to think the organism dies. The soul never intermits its activity. When all thinking ends life ends. The senses are hence never entirely at rest. They continue to react even in our sleep. If ninety-nine per cent. of their functions be at abeyance, one per cent. is still on the alert for an unusual sound, a bright ray of light, a penetrating odor, a piercing taste, or a heavy pressure.¹ The remnants of these sensations together with the emanations from the vegetative system and the memory pictures are the generators of the fleeting dream phantasms. The contents of these three sources fuse to furnish the stimuli to the dream phantasies. Hence there is no sleep without dreaming.

The will is entirely eliminated in our night dreams.² Hence moral obliquity and illogicalness reign supreme in our dream phantasies. We are immoral, unethical, illogical,

indiscriminate, undiscerning, unesthetic, cruel and pitiless in our dreams.¹ There is a complete absence of the moral sense in sleep. We steal and murder, we rape and commit adultery, sodomy and incest, we lie and cheat without the least scruple. We have social and intimate intercourse with nasty individuals and horrible beasts at whose mere touch we would shudder in the waking state. We do not discern the absurdity of a person changing into another. We do not wonder at the absence of time and space. There is complete absence of wonder or surprise in sleep dreams.

Still in spite of this dormancy of ethics, esthetics and logic in sleep, the phantasmagoria of dreams has assumed a vast importance in recent medical literature. The problem of dreams has become one of great interest. Dreams are now studied more than ever before in the history of mankind. The oneiroscopy of the ancients pales into insignificance, compared with that of the Freudian school. For the ancients, at least, not all dreams had real significance. "Two classes of gates," says Penelope (Odyssey XIX. 560), "exist for the passage of fickle dreams; those made of horn, the others of ivory. The ivory dreams carry unfilled words. Those who leave the door by the gate made of polished horn fulfil the truth." For the Freudian every dream has a deep teleologic meaning, awaiting the interpretation of a psychoanalyst. Among the ancients down to the superstition of the present day, dreams had a prophetic significance. Joseph's dreams (Genesis XXXVII. 6-10) presage his elevation to the viceroyalty of Egypt. The dreams of the chief butler and

¹ All cells of the animal body are constantly at their task. The autonomic nerves, the augmentors and inhibitors of the vasomotor system constantly control the required blood quantity in the different organs. The cognitive brain cells no less than the glandular cells ever stop performing their proper functions. They all work intensively on increased demand and then slow down. The liver cells and the male gonads have even their reservoirs to store away their respective secretions to be used on demand. On demand the cognitive cells function intensively. During the reverie they slow down, and in the night dream their work has diminished to a minimum, to a slight perception of actual sensations going on within the organism and to a recollection of their correlated and coordinated memory pictures.

All these sensation pictures pass review, like moving pictures, on the screen of the cortex, but without order, fleeting, kaleidoscopic, shuffled, without deeper meaning. There is no other proof for the existence of a latent content but the word of Freud, just as there is no proof of the validity of the principle of *Similia similibus curantur* but the word of Hahnemann. Neither word is a valid proof in logic.

² *Ignoti nulla cupido*, without cognition there is no volition.

¹ For all these character traits we are no more responsible than we are for the crimes committed in the moving picture. We are witnessing at a show in our dreams. We are not the actors, altho appearing to be, we are the spectators.

baker foretell their respective judgments. Pharaoh's dream (Gen. chaps. 40 and 41) foretells Egypt's imminent famine. In Job (XXXIII. 15), God speaks to man in his dreams and warns him ahead what may happen. In the Iliad, Agamemnon is commanded in his dream to begin the battle, and victory is promised (II. 1-40).

All these dreams have a prophetic bearing for the future. For the modern oneiroscope a dream is not a prophecy which would, at least, be of some utility but a retrospect story of a vain yearning. It is a cryptic, symbolic expression of an unfulfilled wish. The dream brings to light the unsuspected depth of man's depravity during the dormancy of ethics and esthetics and the abeyance of his moral training.

Pleasant dreams, as it has always been known, picture unfulfilled wishes as fulfilled. The little girl of the writer did not receive her new coat bought for her the previous day, and she dreams that her coat had arrived. Oppressive dreams are the result of some disturbance within the organism, in the viscera, circulation, muscles, etc. The indifferent dreams are mere fleeting phantasms without any meaning. This was and still is the belief of the discerning. Now comes the Freudian and puts an entirely new and strained construction on dreams with his claim that all dreams without exception, pleasant, painful and indifferent are nothing else but wishfulfilments and very remote infantile wishes at that.¹ In the pleasant dream the Freudian agrees

with the common observation of mankind since time immemorial that it is the manifest content which fulfills the wish. In the other two kinds the new school maintains that a hypothetical, latent content does the trick. Why this differentiation, where are the proofs for the elaborate scheme of dream interpretation, where the apparent confidence in the conclusions of its demonstration? It suffices that Freud says so, and all Freudians believe in *verbo magistri*. The validity of Freud's conclusions must not be questioned. In this way the Freudians analyze not only the dreams of the neurotic to fathom his hidden wishes, but they find a vast field for the most phantastic interpretations of the phantasmagoria of sleep in the normal individual.¹

Yet the psychoanalyst could have it much easier if instead of having to contend with forgotten meaningless night dreams he would turn his labor to analyzing conscious, voluntary day dreams.² If a slip of the tongue or pen, if a forgotten name has an unconscious meaning for the Freudian then an elaborate day dream ought surely to have a subconscious neurogram at its basis. Everyday dream, representing hallucinations conjured up at will, is of necessity a wishfulfilment. The content must be willed or the dream would not be dreamt. But subconscious complexes surely give to the reverie its direction. Especially in the neurotic the direction of the voluntary dream thoughts ought to be determined by

¹ Yet there is no reason for the supposition that the dream occupies itself with wishes only; why not with doubts, anxieties, fears, prejudices, pains, scruples, sorrows as in the day phantasy?

The Freudian behaves like the osteopath who claims that all diseases may be cured by massage because some anomalies may be improved by his procedure, or like the Christian Scientist who professes to cure every disease by faith because some may improve by a strong faith.

¹ Their teleologic interpretation is based upon the unproved representation that all dreams have a hidden meaning. This assertion is without any accepted precedent to justify it and without logical reasoning to support it. It has not been proved by the master, nor has it been demonstrated by any of his disciples.

² There is but a narrow margin between the day dream and the edited night dream. Still the reverie is more trained and guided by the will.

the irradiations from certain conflicts.¹ The day dream has the advantage over the night dream that it is not so easily forgotten; and all men and women have their day dreams. Only low idiots do not day dream.² The idiot has no wishes for the future to be fulfilled. He lives in the present like the animal. Normal man has his day dreams which are well adapted to analysis. The day dream reflects the individual's desires and aversions, affections and hates, passions and inhibitions, appetites and dislikes, knowledge and ignorance. The apparent aim of man is the gain of satisfaction for his ego, and the purest, most innocent satisfaction is the one man finds when lost in a world of fancy. Buried in his own world, protected from the spying gaze of the importune and curious, he throws the mind into ecstasies and builds for himself fantastic situations, imaginary embellished adventures, all teeming with happiness. In these extravagantly spun-out romances time and space are abolished. All is presence.

Towards this world of fancy incline those who are embittered and oppressed, be they

individuals, peoples, or races. To bring to rest the raging soul poisoned with bitterness, man takes his refuge into a world of fancy, into a paradise, into Nirvana, into a heaven. All such day dreamers are not neurotics as we are led to believe by the modern psychologist, who assumes a pitying or contemptuous attitude toward the day dreamer.

All of us have to go thru life without many things we desire. To be disappointed in our wishes is unavoidable, in this vale of tears. When life becomes unillusive, when youth's expectations have grown dim, faded, failed, then a thrilling, glorious reverie is the only remedy to the wounded heart. It is our duty not to brood sullenly over our hardships and disappointments. We must cultivate the habit of keeping our eyes open to the sources of happiness that are always open to us. To forget for the time being the unhappy situations and to turn from a restless, discontented world of reality to a world of our own imagining, unshared by others, is the highest philosophy of hedonism.

In ages bygone the psychologist was a philosopher, nowadays every soothsayer calls himself a psychologist. This psychology of soothsaying classifies day dreaming as a psychoneurosis. But in the true psychoneurosis a promontory of reality seldom emerges above the ever-engulfing waves of the strange, unreal existence, while the day dreamer never tarries when recalled by his daily duties. Still he is called a neurotic because the day dreamer is misusing imagination and its fictions to compensate himself for the difficulties of life, because day dreams are due to an improper psychologic attitude towards one's environment. But why misusing, why improper? Because forsooth the dreamer is unable to adapt himself to reality.

Now, what is absolute reality? Has ever

¹ In select and in a limited class of cases of hysteria and other neuroses the modern histrionic psychoanalysis may accomplish good results. The psychoneurotic people with their disordered imagination, capricious and wandering, go often away into themselves never to return to actual life. Their minds are always in the elsewhere. They feast on vain chimeras and possess the power of invoking shadows. They are often led in their reveries to a wilderness of ideas and they put faith in their fantastic imagery as in the only real. Hence the psychoneurotic ought to offer a vast field for psychoanalytic gymnastics within the domain of his day dreams. Instead of hunting after the characters of Morpheus, the study of the neurotic's reveries where the confines of the waking world blend with the world of dreams would offer a vaster harvest. Why waste valuable energy upon the analysis of the heroes in mythology and literature when valuable material is so near at hand?

² William S. Walsh (*Med. Rec.*, p. 395, 1920) says: "The reveries of the feeble-minded are very simple. Few have lofty ambitions. They are with no thought of the morrow or fear of the future."

mortal eye perceived reality or *Das Ding an sich*? The reality of environment is sensory, and the senses differ in different individuals. Hence reality differs.¹ The bases of realistic experience are the sensations. What today is considered reality becomes a mere assumption tomorrow. For ages the straight line was an untested reality upon which Euclidian geometry was based. If Einstein's theory of relativity be true there is no such a thing of an absolute straight line. Still the mind can think of a straight line. Reality thus resides less in phenomena as such than in states of consciousness, and the latter is real reality.

Reality is the antithesis of appearance. Only the psychic order can claim authentic and indisputable real, not matter which is invariably revealed to us thru our sensations, and the content of perception is not identical with the object perceived, or *Das Ding an sich*. The content is essentially a function of the percipient organism. Being is one thing and its knowledge is quite another. The latter is a function of the mind, altho in causal relation to the thing existent. Metaphysics deals with reality as revealed to thought. Essence is anything that can be given not only to sense perception but also to thought. Thought is a psychical reality, as real as physical reality. Happy is he who is able to match a mental image with reality. One must ever be drunk with wine, poetry or virtue in order not to feel the horrible burden of time, says Baudelaire. The spread of Christian Science, which is nothing but a flight from reality, a negation of one's troubles, is due to its

power to lift man out of the unpoetic realities of existence and let him soar in the realms of Nirvana.

In real life we are tied down to a sober sameness. The really happy man is he who can substitute a simulacrum of reality for the sad realities of life. This image may not have corporeity, but this imaginative reality serves well as a compensation for, as a refuge from physical reality, as an outlet for the dammed-up, emotional forces. Day dreams are true while they last; they give the extraordinary feeling of reality. Hence an occasional retreat into the isolated world of phantasy is of great benefit to the dreamer and for this very reason also to his environment, provided the reveries are not taken seriously to the vapidty of the dull life, and the dreamer is able to return to real life with its suffering from inner voids.

In the isolated world of phantasy the dreamer takes no thought of tomorrow. He lives neither in the past nor in the future, he lives in the present. In this world of the imagery space has no limits and time is infinite. This constructed world of fancy is more satisfactory than the real physical world could offer. The fancy world takes the dreamer away from his dissatisfied life and furnishes him a life of excitement, adventure, romance, a life thrilling and fascinating. This world of phantasy the dreamer has built for himself satisfies his wildest ambitions. Here he finds hope, here he draws consolation, here he forgets his great disappointments, here he gains a sense of elation, of well-being. This temporary supernormal euphoria enables him, when he returns into the real world and when he places himself again in relation to his environment, to let each day's work absorb his entire energy in the world of reality.

¹ And after all what is a lie? 'Tis but
The truth in masquerade, and I defy
Historians, heroes, lawyers, priests to put
A fact without some leaven of a lie.
Lord Byron, Don Juan, Canto XI. Stanza 37.

It is a libel upon the dreamer of dreams that he is unable to adapt himself to reality because forsooth he gives full play to his wishes in the realm of phantasy. Just these very fancies of exquisite delicacy, this hypnoidal touch of ecstasy, this temporary soaring in the astral realms, hands clasped with everlasting love, in eternal embrace, make his adaptation to physical reality possible. The mania of the modern man for work and of the woman for every kind of luxury and their early breakdown is a correlation to their inability to dream dreams and of their lack of imagination. One drowns his misery in drink, another in gambling, the majority of men drown their disappointments in work and women theirs in luxury and debauchery because they are hopelessly too prosaic and unimaginative to dream dreams.

Day dreaming owes its being to the loneliness of imaginative minds, groping for comprehension and sympathy. Imaginative and artistic people find an outlet for their emotions in the reverie when they allow their fancies to wander uncontrolled. The poetic person's ambitions run riot. The poet is a confirmed confabulator. The atmosphere of genius is the atmosphere of the world of dreams.

Day dreaming is hence the most practical accomplishment of the builders of civilization and of the creators of culture. To be truly practical one must have imagination, one must seek relief from the emotional tension for the performance of great and useful work. Reveries are the preludes of great creations in great minds, they are the great sources of great actions. The reveries of philosophers, moralists, preachers, artists, architects, dramatists, singers, poets are the real forces which move the world. At the least frown of the world

of reality these strenuous mental workers turn inward to themselves to find repose in the spontaneous procession of dream imagery where love and happiness forever dwell. There the thinker soars off into the realm of the fantastic where time and space are annihilated and where he finds the road to the infinite and to the eternal.¹

Day dreaming is not only the neurotic's refuge from life's conflicts as the modern oneirocritic psychology would like to make us believe. Humanity as a whole is prone to imagery weaving.² The best of humanity are given much to visual imagery, to romantic dreaming.³ Day dreaming is not at all allied with an overwrought, nervous system. Nervous people are never prolific day dreamers. When such people are in a position to build for themselves strange archaic worlds for compensation and defence, when they are able to weave fascinating phantasies, a rich, splendidly colorful series of fancies, when they can control and direct the currents of their thoughts and call up, by the will, images of delightful worlds where they can find imaginative consolation and a resting place for their un-

¹ The loss of a clear feeling of time or space is not at all characteristic of a morbid condition. Every dreamer loses himself in a timeless and spaceless world.

² Oppressed nations and races find refuge in the world of phantasy and reverie. Such nations usually give the world the best poets. The Egyptian oppression gave birth to a race of Biblical prophets and psalmists. The golden period of classical poetry in Europe was contemporaneous with the period when the European nations were sighing under the yoke of autocratic oppression. The best modern English poetry has been written by the sons of Erin. The best folk-songs were sung in Czarish Russia. A bright future of classic poetry may be presaged for the suffering defeated central powers of Europe.

³ Buddah often retired into the wilderness for solitary contemplation. While tending to his flocks Moses dreamed of the liberation of his people. Jesus often disappeared to the desert to dream of the salvation of mankind, and Mohammed thought out his Alkoran under the blue heavens of the Arabian desert.

requited desires, when they can create for themselves even an impossible or forbidden paradise, then they are no more suffering from depression, they are already on the road of recovery, they are on their way to find real happiness. Their dreams will fill the actual void.

Optative air castles secure the individual no less happiness than physical castles in Spain. He has never known happiness who has never day dreamed. Happiness is a habit, a frame of mind, claims Epicurus, the apostle of hedonism who holds that all pleasure is good and that to attain the greatest amount of happiness is the supreme aim of life. But the same philosopher differentiates between the bodily pleasures and the calmer pleasures of the mind, the higher pleasure, the pleasure of repose. This happiness of the mind is best found in the inner hidden world of fancy that enriches and beautifies life and gives it a fuller sense of exhilaration.

In the struggle between the ease of phantasy and the harder physical reality, the wise man will select the former. The happy dreamer is the wiser man. Life is the desire to be happy. Man is constantly in search for the attainment of pleasure and avoidance of pain, and pain and unhappiness are not seldom met with in the midst of great achievements, in the midst of the acquisition of all the material riches and wealth in life and in the midst of their enjoyment. Judged by our standards such a man of affluence and opulence may be considered a great success. Still being unhappy he is a dismal failure. Man is in constant search for a never-fading happiness. Hence the only success in life is the attainment of such happiness. Unhappiness even in the midst of a vast abundance of material things is a total

failure. The only way to happiness left to such an unhappy possessor of material riches is the refuge to reverie. The day dream is the straightest and easiest avenue of escape from an intolerable and uncomfortable situation. Here even the saddest and unhappiest man can order his desires, strivings and appetites. Here he sees all objects of his wishes instantly fulfilled. From these sources of delight no one but he himself can separate him. The reverie is hence the straightest way to happiness and success.

The contents of the average day dream in the majority of men are simple, plain wishfulfilments, such as the infantile night dreams. Next in frequency is the sex reverie. A more complex type than the plain wish and sex dreams is the grandeur phantasy, where the dreamer sees himself in the rôle of a great general, of a captain of industry, of a president of a big corporation, of a president of a republic, of a founder of a new religion.

All day dreams may hence be put under three headings: infantile dreams, sex dreams and grandeur dreams. The three types are naturally more or less intertwined and branch off in different directions within a single reverie. Still the main feature of each phantasy will always show one of the three types.

By infantile day dreams is understood an imaginative fulfilment of common, everyday wishes, analogous to the wishfulfilments in the child's night dream. When the sweet sixteen revels in the phantasy of a prince charming coming to woo her as his princess and lead her to a castle in Spain, this phantasy is a plain wishfulfilment and represents neither a sex nor a grandeur dream, altho it has some such features. Every young man or woman dreams of

possessing some day a family hearth of his or her own, surrounded by a charming mate and offspring. Still neither the normal boy nor the girl is interested in the sexual feature of the family. It is the nest impulse which gives color to the day phantasy. When the boy dreams of becoming a successful merchant, a prominent lawyer, a celebrated physician, a famous artist, such a dream represents a simple wishfulfilment of the infantile type. Even when the young lawyer or doctor dreams of marrying into a prominent family and in this way climb up the ladder of success, such a dream, tho it contains elements of sex and grandeur, is still an infantile dream of a simple wishfulfilment, as the following:

He was a young, struggling physician. One day he was called to see the daughter of a millionaire, who was to be operated for an ovarian cyst the following day, and who had a sudden attack of syncope. When he arrived he found the patient in a complete coma. She had no perceptible pulse and the spasmodic respirations were about three to five a minute. While trying artificial respiration, he suddenly felt the tumor delineated between pubes and umbilicus, and the thought flashed thru his mind whether the case might not be a simple cystitis as he had once found in an autopsy. Upon this theory he began to arrange his remedial measures and he was happy to see that the prominence in the lower abdomen soon disappeared, and with the disappearance of the abdominal pressure, respiration and circulation improved, the patient regained consciousness and was saved not only from death, but from a mutilating operation. The patient's gratitude knew no bounds. This gratitude, on one hand, and his admiration for the young, beautiful patient, on the other hand, ripened by degrees into love and marriage. As the son-in-law of a millionaire he secured several positions in big hospitals and became a prominent man in his profession.

This main feature of the phantasy, amplified by numerous romantic, analyzable ramifications, is a simple infantile wishfulfilment, in spite of the bride being the only child of a millionaire. It is the fulfilment of the wish of establishing his own hearth and family, the natural desire of every normal man and woman, and of gain-

ing a reputation in his chosen profession. The desire for comfort and affluence is not grandeur, nor is a simple marriage phantasy a sex dream.

He was an art student in Paris. One day he rented a furnished room in an apartment kept by a quite young mother and her fifteen year old daughter, who was the issue of a common law marriage of her mother with a millionaire. The apartment was richly furnished by the father of the girl and when he left her mother he settled a certain sum on mother and child to keep them comfortable for life. Not wishing to be alone, they rented out one room to have a man in the house.

At the end of the first week our artist returned home one evening and found the young girl in bed with pneumonia and the mother tired of nursing her. He sent the mother to rest and he stayed in the sick room till midnight. This watch he repeated every evening during the entire illness of the young girl. The young mother was full of gratitude for this kind devotion and offered him in frequent hints her intimate friendship. But our frigid artist did not at first react and to escape her importunities he took a trip to Spain and Italy. When he returned home mother and daughter received him with open arms and the three became great friends. They took their meals together and went out together to parties and amusements.

Every morning the mother had to enter his room to awake the sound sleeper. One rainy morning, on account of the inclemency of the weather, he decided to stay in bed longer, and this morning intimate friendship was established and kept up for several months.

One evening when the artist returned home as usual he found the young girl alone and in tears. Her mother had fallen on the street in the afternoon and was taken to the hospital with a broken leg. Now she was alone in the world, helpless and even afraid to sleep alone in her room. He consoled her as much as he could, took her out to dinner as usual and the following afternoon they both went to the hospital and found the patient out of danger. But the report read that she would have to stay in the hospital for several weeks till the fracture was healed. During these weeks our artist and the girl were thrown into each other's company every evening, and the propinquity did not fail to establish intimate friendship between them. When the mother returned from the hospital, the friendship was kept up *en trois* till our artist left Paris for the States.

This day dream is a plain sex phantasy of a kind-hearted, sexually passive, pedophilic varietist. He has to be aroused and virtually attacked in an hypnagogic condition in the dawn of the morning before

he responds. Hence in real life he has to repress his desires and longings for sex expression, and he finds an outlet for the repressed emotions in depicting erotic intimate scenes, in vaginophallic reveries. These erotic visions serve to release the repressed emotion and to relieve the sex obsessed mind and fit it for useful work. The desire transforms itself into a poetic phantasy.

He was a Jewish boy, born in one of the provinces of Czarish Russia, inhabited by a subject race, sighing for delivery from autocratic oppression. His own race, on account of the difference of its creed, was doubly persecuted by governmental cruelty and popular prejudice. His race, therefore, became a people of dreamers and found alleviation of its miseries in the solace of religion and in the study of the holy scriptures. The time between study and prayer the boy dreamt of uniting some day all races and peoples into one Messianic religion where he was to play one of the leading rôles. Scarcely did he reach adulthood when he left home for Germany, worked his way thru college and university, and came to free America to practice the healing art of his profession in freedom and peace. But here, too, he did not need to wait long to discover a certain rampancy of social prejudice against his race. So he began to dream his old dream.

One day he was called to treat rich Mr. X for a prostatic trouble. The patient was greatly relieved by the treatment and when he went in the spring to spend the summer on his estate, at one of the big lakes, he took his doctor with him. For some reason or other Mrs. X took a dislike to the doctor and so did her young sister, who left the convent school to spend the summer with the family. The two young women made it so disagreeable to him that he only showed himself at the house for the treatment of his patient and at meal time. The whole day he was sitting in a boat in some secluded small bay of the lake reading his ancient classics.

One day a friend of the family, a high ecclesiastical dignitary, and his young nephew came on a visit and our doctor had to remain on the porch with the guests. When the nephew noticed the dislike of the ladies for the doctor he began to taunt him by making abusive allusions to the Jews in general, to the greatest delight of the two sisters. After the abuse went on for a while the doctor lost his patience and asked the young man what the Jews had done to him to justify his hatred against them. "I do not like them because they do not believe in Christ," was his answer. "But they do," was the doctor's retort. At this remark the bishop himself entered into the dispute. "My dear doctor," said the bishop, "there may be some reformed Jews who believe in Christ, but the orthodox surely do not." To this the

doctor replied: "I say that just the orthodox do and I shall prove it.

"Christ is the Lord of the universe, is not He? He has created the world. He is eternal, omniscient and omnipotent, He directs the destinies of every thing in creation. Now, let us cast a glance at the first prayer every orthodox Jew sends to his creator every morning: 'Lord of the universe who reigned before ought was created. Everything was created by His will. His name was called king. After the end of time He alone will reign, He, the awe-inspiring. He was, He is, and He will be in eternity. He is one and there is no second like Him or to compare with Him. He is without a beginning and without an end. He is the power and the reign. He is my God, He lives my Savior, the rock in my affliction and in time of need, etc.' Now is this Lord not the same as your Lord? The difference seems to be in name only. You both pray to the same architect of the universe for support and delivery; there are not two architects. Supposing Cain said to Abel: 'Do you know, Abel, that our father's name was Abraham?' Able answered, 'No, his name was Adam.' Then Cain said to Abel, 'If you insist that your father's name was Adam, then you are not my brother, you had a different father.' Wouldn't you call such reasoning absurd? There was no other father at that time in the world. There is no other creator now. You may call Him by any name you please. Jehovah or Christ, He is one and the same."

The bishop remained in deep silence for a time, then he said, "That is certainly right, but you do not believe in the incarnation of the Christ." "Well," answered the doctor, "granted I don't, what of it? That does not alter our belief in one and the same Supreme Being, since there is no other Being existent. Let us take another example. Supposing my brother A said to me, 'Do you know, B, that our father in his youth has ascended the Mount McKinley,' and I answered that he did not do anything of the kind. Then my brother exclaimed, 'If you do not believe in this exploit of my father, then you are not his son, and I am not your brother.' Would not you call my brother a fool?

"You claim that the spaceless and timeless creator of the universe who laid the foundation of this earth, who called forth into existence the stars, each one a vast solar system in itself, which hurl around in infinite space some thousand of light years away from this earth—and light travels about ten million miles a minute—I repeat, that this omnipotent and omniscient creator one day descended from his starry abode to a poor, insignificant province of imperial Rome, inhabited by a poor, despised, little nation, and incarnated Himself. I say He could have done it, nothing is impossible for Him, but I do not believe He did it. Then you say if I did not believe in this incarnation I do not believe in Him, I am not your brother, we have not the same father. Why! You argue with the same logic as my brother.

"If I am mistaken and the Lord did the things you claim and when I die I should be brought before His throne for judgment, then

I shall fall on my knees and cry, Oh Lord! forgive my disbelief. I did never doubt your omnipotence, but I did not know that you occupy yourself with small things. Then He will extend His hand to me and seat me at his side with the words: 'Fear not, my son, descendant of the tribe of Judah, you are forgiven. You followed my precepts more faithfully than your detractors who claimed to believe in Me. The real Christian spirit is rarely found among those who profess Me.' At this point the doctor became so affected that he had to leave the company. He ran to his boat and sailed away to a quiet, hidden inlet of the great lake.

This phantasy spun out into innumerable variations controlled his reveries for months and years. The dreamer was a reformer. He wished to bring along harmony in religion. All peoples and nations should have only one creed. In real life he saw no hope for the realization of his desires and longings, so he tried to convert a high official of the church in his dream. The phantasy represents thus a grandeur dream.

The three phantasies of patients, subjected by the writer to a simple analysis, represent the three main types of day dreams. Such reveries have been little exploited even by the modern psychologist. Yet since all men think continually except when in syncope, there is no reason why the psychologist should try to explore the bizarre sleep thoughts and neglect to utilize the logical voluntary waking fancies. The reverie is a voluntary mental production. The wishes and their fulfilments are clear. The day dream differs from the night dream in content, method, objects and foundation. The attention is focused at a deliberately selected object. The thoughts are directed into certain channels. In the state of wakefulness thinking is brought under the control and direction of the will.

Still the dreamer detaches himself from life, as in the sleep dream. The remembered night dreams resemble a great deal waking thoughts. The remembered night dreams are more or less hypnagogic dreams

and are hence subjected to similar directing influences as the day phantasy. Every remembered night dream is edited by the hypnagogic waking state. There is seldom any remembrance of a dream without copious editing by the dreamer in the hypnagogic state. Hence every night dream is partly an artificial dream. But even the edited phantasmagoria of night is quickly forgotten, and the teleologic nature of the small remembered fractions has never been demonstrated, while the day dream is positively known to serve as an outlet for the pent-up emotions. Hence such phantasies ought to lead us quicker to our subconscious complexes if there be any.

The day dream phantasies are not only related to our conscious wishes, but our deeply interwoven subconscious yearnings are lifted up from their recesses to give substance to these phantasies. Hence the exploration of the unconscious substratum of man's mentality by means of these reveries promises valuable finds. The analysis of the day fancies will allow us to penetrate into the secret depths of the subconscious and to discover there the root ideas in obscure cases of psychoneuroses. If a slip of the tongue or pen, if the forgetting of a name may be attributed to a subconscious motive, it is unthinkable that there should not be a deliberate subconscious selection in the complex imagery of the day reverie. Even Bleuler (*Münchener Med. Wochenschr*, No. 21, 1911) and Stekel (*Die Sprache des Traumes*) advise patients to make up dreams for analysis. If this may be done occasionally, why not always? Why depend at all upon the bizarre fleeting sleep phantasms, and why not give up the entire doctrine of the subconscious latent content, repellent to common sense as well as to the serious thinker?

The day dream opens up a problem of investigation and discussion which ought to be of intense importance to the psychologist. He may extract valuable data of the mental trends of the dreamer of day dreams. There is no reason why psychoanalysis, with great pain and labor, should immerse itself in the analytic interpretation of night dreams, if insight into the patient's make-up and character may be obtained by simply listening to the recital of his phantasy weavings of his day dreams.

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PHYSICIAN OR SURGEON?

BY

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"Handed up to the surgeon, or is it down?" is an expression which occurred recently in this journal. Comparisons are odious, and an attempt to inquire publicly, which requires the greater mind, medicine or surgery, may easily prove an ungracious task. Surgery has made such great advances in late years that perhaps it may be pardoned if it feel itself somewhat superior to its sister branch of the profession. Again, the greater fees commanded and collected seem to justify the same assumption.

But as to the former, is there not some truth in a saying of a recent Master of the National Grange, that the progress in surgery is not yet so great but that a surgeon must often look in Bradstreet's to decide whether the patient should be operated upon for appendicitis or take a 75-cent prescription?

Plainly this operation and that for re-

moval of the tonsils is not now favored as often as they were a few years ago.

And is not the skill required for either of them, the one with gloved hands thru a small aperture, mainly a matter of technic, comparable to that of the repairer of the automobile or an aeroplane, together with their management, especially if we separate the surgeon's share from that of the physician who has had responsibility for the case till handed up, or down, to the surgeon?

The dental surgeon does oral work of a mechanical and technical nature, which would trouble the physician to do, yet he would not for a moment presume superiority to the physician or the surgeon either, who could not so work in metal and other material.

And as to the higher prices paid, the osteopath and other healers have been cheerfully paid \$5 to \$25, where physicians have had \$1 to \$5. And yet the osteopath could not retain his belief in the easy "dislocation of a vertebra" if he remembered how hard it is to dislocate one in the cadaver, and how complete is the paralysis, when by great violence one has been dislocated or disturbed a little in the living.

I have settled several estates—a work not wholly unsuitable for an often unfortunate physician—and for getting a will probated I have rarely wanted over two dollars. But a lawyer well known to me, not five rods from the courtroom, has just now charged \$60 for the like work in an estate of only about \$1,000, and that in a small town.

Pay is but a poor proof of the comparative value of work, or the quality of skill required for its performance.

The fact is, that the very, very best work in the world has been but poorly paid. How

much did Confucius, of Shantung, China, command for his great services to mankind? Was not Gautama Buddha a beggar in his day, even at eighty years of age? Was Jesus of Nazareth adequately rewarded for his teaching and toil, the man who said, "But I am among you as he that serveth." Each of these today has a vast following, and each is worshipped as a god. "Which of the prophets have not your fathers stoned?" For what was Socrates condemned to drink the hemlock? It was his pay.

Have not earth's very greatest benefactors hardly escaped the cross and the stake? How have many of the greatest discoverers in medicine been received—Harvey, Hunter, Jackson and Jenner, for example—in their days?

Many of the greatest poets and philosophers have fared exceedingly hard. The works of Herbert Spencer, greatest of modern philosophers, did not pay, but were published at the expense of his friends. Nor were Darwin's works wholly fortunate in their rewards. Emerson's works, now adored almost, did not pecuniarily reward him.

Indulge me a moment. Lest I should be thought wholly ignorant of the surgeon's side, I may mention that I have known a little of his work and of its recompense and have too often deemed it worthier than the less showy and laborious work of the physician. Do I need excuse the word "work"? The greater Spurgeon said, "I am the working man Spurgeon, my brother is the gentleman Spurgeon."

Does it require less skill to conduct a patient along the border of the precipice of danger in influenza, or pneumonia, to the place of safety, than it does to remove an appendix, aided by the physician on whose

diagnosis and management the operator so largely depends? Evidently this question might readily be multiplied, as in regard to diagnoses and treatment of scarlet fever, and contagious and febrile diseases generally.

But my object is not to settle the question, not to find a final and unanswerable answer, but to raise inquiry, whether or not the physician relatively to the specialist in surgery, has been properly estimated, and whether with less intellect than that of the surgeon specialist, he can do the best possible to be done for his patient.

With the view, implied at least in this writing, there is no pausing place for the physician to cease inquiry, to cease earnest, painful effort, for higher, and yet higher mental equipment and power, to be used in his somewhat self-giving and anxious toil. Such is this paper's message.

Physicians' burdens I have partly known;
They watch the ebbing breath by beds
 of pain,
They hear the mother's grief, the cry, the
 moan,
When sorrow sheds upon her heart its
 rain.

Beneath the stars, or in the sullen storm,
In rain or in the fiercely blinding sleet,
While others rest in households calm and
 warm,
He seeks distress, through the unlighted
 street.

It may be age, with its attendant pain,
It may be youth whom accident hath
 thrown,
Oft without hope of recompense or gain,
He hastes o'er hills to heal the broken
 bone.

Birth beckons him by night, in still or
 storm,
Sepulchral tones of death sad signals
 send,
Nor waits he once for ceremony's form,
But hies afar 'gainst grief and pain to
 fend.

A little life in its own sanctuary,
Is his to guard till to the vale she goes,
And through the vale, he watchful, too, and
wary,
Guides her with a concern that no one
knows.

Such is the toil to which he is devoted,
He dedicates his life to deeds like these,
Nor to a higher can one be promoted,
These deeds are toilsome prayer, not
prayers of ease.

THE ECONOMICS OF HEALTH.

BY

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(Continued from September Issue.)

It has been stated that public health is purchasable. Within reasonable limitations this is true. Similarly, one may claim that private health is purchasable, altho the limitations are possibly more marked. Fundamentally, one must recognize that income constitutes a fundamental point of departure in considering the ability of individuals to supply for themselves the necessities involved in establishing a minimum standard of living or a minimum standard of physical, mental and moral comfort. There are certain directions in which income stands forth as related to health. Among these one might mention infant mortality, tuberculosis and malnutrition, tho, of course, these three are in themselves somewhat closely related.

Fortunately, the benefits of public health administration are revealed in considerations of infant mortality. The general death rate is declining. The general birth rate is decreasing and the infant mortality rate is being lowered gradually thruout the country. As an illustration, in New York City

the average infant mortality rate from 1906 to 1910 was 135.8, and this had fallen to 91.7 in 1918. The percentage of infantile deaths to the total mortality similarly fell from 21.9 per cent., the average of 1906 to 1910, to 12.8 per cent. in 1918, while the general death rate dropped from 17.11 during 1906 to 1910 to 16.71 in 1918. One might ask immediately, if this be entirely the effect of public health administration, in how far do wages affect the infant mortality rate?

With lowered family income it is frequently necessary for the mother to supplement the income of the father and enter employment, or the loss of the male wage earner obligates the widow to pursue gainful occupation. The employment of mothers has a distinct effect upon infant mortality rate. As a single example, in Manchester, N. H., according to the Children's Bureau, the infant mortality rate for children whose mothers were working only in the home was 122, while the rate for those whose mothers were employed outside the home was 312.9. It must be noted that 65.7 per cent. of the mothers working had husbands earning less than \$550 per annum, and only 9.5 per cent. had husbands earning more than \$1,250 per annum. The relation is more than apparent. The combined figures of eight cities investigated by the Children's Bureau, covering observations of the fathers of 23,780 babies born, showed that more than one-quarter (26.9 per cent.) earned less than \$950 during the year after the baby's birth, while only one-eighth (11.9 per cent.) earned more than \$1,250 during the same period of time. The average infant mortality rate for all earnings was 111.2. The rate for those whose fathers earned \$1,250 and over was 64.3, while for those whose fathers had an income under

\$550 during the year following the child's birth, the infant mortality was 151.4.

It must be recognized that more than 46 per cent. of infantile deaths occur during the first year. Wages must provide the necessities of life. Few people take up unsanitary and unhealthful surroundings as a matter of choice. The home is largely determined by the rental, and the ability to pay rent, therefore, becomes responsible for the type of housing during infancy. Illustrative of this, taking again the figures of Manchester, N. H., let us tabulate the infant mortality rate on the basis of rentals.

175 babies	Rent less than \$ 7.50	per month	Rate, 211.4
703 babies	Rent 7.50	to \$12.49 per month	Rate, 172.1
300 babies	Rent 12.50	to 17.49 per month	Rate, 156.7
62 babies	Rent over 17.50		Rate, 100.
168 babies	Homes owned		Rate, 86.

The infant mortality decreases as rental increases. Even such a factor as bathtubs provides subject for thought. In Johnstown, Penn., the infant mortality in homes with bathtubs was 72.6, and without bathtubs, 164.8. The number of rooms in the home conditions overcrowding. The greater the room congestion, the lower the standard of living and one may generally deduce a relatively lower wage. In Manchester, with less than one person per room, the infant mortality rate was 123.3. With one to two persons per room, the rate was 177.8. Two to three per room, rate 261.7. Lest it be urged that this is a condition which does not obtain in communities where higher wages are paid, it may be pointed out that in Brockton, Mass., where high wages exist, the infant mortality rate where less than one person was found to the room was 86.5 per cent., and where there was more than one person per room 110.2 per cent.

Osler referred to tuberculosis as a house disease. Williamson, in the *British Journal of Tuberculosis*, 1915, commented upon

the fact that 60 to 70 per cent. of tuberculous persons came from houses of three rooms or less and that the number of cases was larger in two-room houses than in three-room houses, and larger in one-room houses than in two-room houses. Leaving out the mere question of size of house it requires little argument to demonstrate that fresh air, sunshine, food, recreation and serenity, all of which are urged as preventives and cures for tuberculosis, can only be secured by those having the means to pay for them. The lower the general average of income, the more difficult right

conditions of living become and, in consequence, a greater susceptibility to tuberculosis develops.

This, of course, ignores the part which industry plays in producing conditions favorable to the development of tuberculosis or, indeed, to the part that alcoholism plays in undermining physical strength. Despite the shame of it, alcoholism is more serious in the lower income groups in all of its consequences than among persons enjoying liberal incomes. Nor is it too much to say that the abuse of alcohol decreases with the increase of wage potentials, whether as cause or effect is immaterial at this time.

Tuberculosis is particularly serious in its effects upon family income because of its long duration and costliness. Both of these throw increased financial stress upon the other members of the family, hasten women into industry, tend to force children into the labor market, and lower familial vitality. Locke and Floyd, previously referred to, find, for example, that of 500 male tuber-

culous subjects they studied, by the 244 who died, there had been lost 53.04 weeks of employment, at an average wage of \$11.89. The 256 still living had lost 89.03 weeks at an average wage of \$11.38. The dead had an average loss of \$618.28 per year, and the living had an annual loss of \$591.76 per year. In addition to this loss, however, the expenses for medical attention, medicines, nursing, etc., could not be met by the individuals, and the City of Boston itself made its contribution of \$73,984 in public hospital care, exclusive of sums paid by private organizations. The cost to relatives, immediate and remote, cannot be estimated, but it is patent that with low incomes, tuberculosis continues to sap the financial and physical strength of numerous persons in the efforts to check the ravages of the disease. The seriousness of tuberculosis is more manifest when it is recalled that it is a disease affecting in greatest seriousness the period of life ordinarily considered to be most productive.

To refer to malnutrition briefly, one may say that it is most extensive in the United States, varying from low percentages to estimates of 20, 30 and even 40 per cent. in various parts of the country. I have referred elsewhere to the causes of malnutrition (*New York Medical Journal*, April 15, 1916). They are undoubtedly closely connected with problems such as housing, overcrowding, low wages, underemployment, alcoholism, poor hygiene, ignorance of food values, poor assimilation, insufficient clothing, overstimulation, worry, grief, sorrow, etc., but all of these sociologic factors are closely related in one way or another to wages. Even ignorance, where hereditary defect is not involved, is not to be regarded *per se* as an essential cause of malnutrition if it can be demon-

strated that the ignorance of the parents arose from a lack of opportunity to secure an adequate educational experience as a result of familial wage deficiencies that robbed them of educational opportunities.

The fact that malnutrition has been deemed to exist in the United States to the extent of 25 per cent. of the school population is sufficient to demand attention for its relief. In its essence permanent elimination must involve an understanding of the relation between income and the ability to provide an adequate amount of properly balanced food to safeguard growing childhood from various disease states such as anemia, adenitis, defects of vision, mental dulness, chorea, tuberculosis, impaired resistance to infections and protracted convalescence from disease.

A salient factor entering into the maintenance of adequate home health standards is the proper distribution of the family budget. Particular importance attaches to the provisions to be made against sickness and consequent losses. A standard of living may be considered as being based upon the minimum standard annual amount necessary for escaping dependency or, from the viewpoint of a minimum amount essential for securing minimum standards of comfort. There is, obviously, a financial margin between these two. Standards of living necessarily vary with grades of intelligence, culture, experience, opportunities, ambitions, desires and social status. The attainment, however, of any standards of living is largely dependent upon the ability to provide sufficient income to secure them in accordance with a purposeful or chance budget.

In approaching the question of theoretic budget arrangement, it is absolutely essential to have some slight idea of the incomes existent in the United States. It is per-

factly true that reliable figures of income are difficult to secure. I assume, however, that the Bankers' Trust Company is reasonably reliable in its presentation of a table indicating the share of yearly incomes contributable in taxes and bond purchases for defraying the cost in the second year of the war. This tabulation, issued in 1918, bases the distribution of incomes of \$3,000 and over on the income tax returns for 1916, while those below \$3,000 are based on carefully made estimates. It must be admitted at the onset that the group of incomes today is probably slightly different insofar as absolute figures are concerned. In terms of relative proportions, because of higher wage returns due to war and similarly to higher profits as a result of business conditions, the relative distribution of incomes has probably been altered very slightly. According to the Bankers' Trust Company, then, there were in the United States 27,304,199 family groups and individuals. Of this number, 24,058,000 had an average annual income of \$1,600 per annum or less; 2,308,000 families had an average annual income of \$1,750 to \$2,400 inclusive. Only 157,199 families had an average annual income of \$9,000 or more. In other words, 26,266,000 out of 27,304,199 families had an annual income of \$2,400 or less a year. This represents the crux of the income problem insofar as it relates to matters of health and welfare.

The practical question that arises is, what constitutes a living wage? This has changed materially during the past few years. Comparatively few years ago the New York Bureau of Labor established \$520 as the minimum annual living wage. Devine, \$600; the Massachusetts Bureau of Statistics, \$728; Mrs. More, \$14 a week or \$728 a year, with an annual income varying be-

tween \$800 to \$900 per annum. These figures have since been extended to \$925 a year and recently to \$1,200 a year, while some studies in connection with minimum wage have raised these to as high as \$1,500 a year. It is important to bear these items in mind, in view of the facts previously stated that 24,058,000 had an annual income of \$1,600 a year or less.

A living wage is more than the amount necessary for mere physical efficiency. It should allow for some recreation and pleasures, for sickness, for short periods of unemployment and some provision for the future in the form of savings, insurance or membership in benefit societies. It is patent that all these items are closely related to the ability to preserve or to secure health. When the income is low, or is lost for a considerable period of time, the wife enters into employment and children may be forced out of school into jobs. Children thus forced prematurely into industry enter it untrained and because of their handicaps tend to fall into the class of casuals or unskilled labor in the low income groups. Not infrequently the man with a moderate or large-sized family and an inadequate income, after due discouragement, seizes upon any job and possibly becomes unsteady therein. With his undernourishment various degenerations set in, until finally a vicious circle arises and "the unemployed becomes the unemployable." In the *United States Census Bulletin Number 93*, the earnings of 1905 were given, the median for women 6 to 7 dollars, and for men 10 to 12 dollars. These may be weighted by 50 per cent. and represent probably the median at the present time.

The effect of accidents is shown in the Second and Third Reports of the New York State Commission to Inquire into

Employers' Liability. Accidents entail losses for wages during the period of disability and for medical expenses or funeral expenses. The weekly wages of the men investigated in 1907 were about \$15 in the case of 471 out of 1,480. The average losses recorded for one year in the case of fatalities total \$837.15; for a permanent and complete disability, \$773.32; for a partial disability, \$553.85. The effect of such losses upon family incomes requires no discussion.

There is a vast difference between a weekly wage and annual earnings. This is illustrated in the Third Report of the New York State Commission to Inquire into Employers' Liability, 1911, wherein it is stated that 211 unions presented the following report:

Number of unions	Average possible earnings
211	\$1,012.14
15 (Masons and bricklayers)	1,228.60
3 (Retail clerks)	659.33
167 (Metal workers)	1,019.18
17 (Carpenters and joiners)	1,091.88

In only 4 per cent. of the unions were the possible earnings below \$700. but as a matter of fact 25 per cent. of the actual earnings fell below \$700. Theoretically, 52 per cent. had an average possible earning of \$1,000 or above, but in reality only 14 per cent. actually achieved this standard of wage.

According to Chapin, *The Standard of Living in New York City*, there is evidence that even such items as bathrooms and toilets increase in number as the annual income rises from \$400 to \$1,100. The amount of expenditure for clothing, for health and for sundries increases with the annual income. Let me present a comparison of the findings of Mrs. More in her study of 200 families in New York City

and those of the United States Department of Labor of 2,567 families.

More	U. S. Department of Labor			
Average income	\$851.38		\$827.19	
Size of family	5.6		5.31	
Average		Per		Per
expense for	Amt.	cent.	Amt.	cent.
Food	\$363.42	43.4	\$326.90	42.54
Rent	162.26	19.4	99.49	12.95
Clothing	88.45	10.6	107.84	14.04
Fuel and light	42.46	5.1	40.38	5.25
Ins. (life)	32.35	3.9	19.44	2.53
Sundries	147.31	17.6	174.49	22.69
Total expense	\$836.25	100.	\$768.54	100.

In 1901 the United States Bureau of Labor reported on 25,440 families, of which 15,161 were American, with an average size of family, 4.88. The average total income was \$749.50, of which 93.29 per cent. was expended; 23.26 per cent. of the families

Average actual earnings	Per cent. of possible earnings	Per cent. of possible earnings lost
\$801.13	77.1	20.9
651.66	53.5	46.5
659.33	100.	
842.87	82.7	17.3
766.00	70.1	29.9

had boarders or lodgers. The average number of rooms per family was 4.95 and the average number of rooms per individual was 1.04.

The effect of the size of the family upon expenditures may be shown in the Report of the Cost of Living in Spokane, Wash., *Monthly Labor Review*, February, 1919. The figures cover the monthly expenditures of 52 families of two persons; 78 of three; 53 of four; 32 of five; and 25 of six. The average for the 240 families provides for an expenditure during the month of October, 1918, of \$108.44. This would make a yearly average of \$1,308.28, altho this is incorrect because all months are not of equal value insofar as mandatory expenditures are concerned. Comparing the monthly expendi-

tures, the family of two spent \$96.14; the family of four, \$110.91; the family of six, \$134.34. If the annual figures were merely the monthly items multiplied by twelve, the figures would be, respectively, for two, \$1,153.68; for four, \$1,336.92; for six, \$1,612.08. It is rarely true, however, that the ability to make the higher expenditures continues in direct proportion with the size of the family.

It is impossible to draw any conclusions as to the possible standards of living, from a knowledge of income actually received. The purchasing power of money depends entirely upon the cost of commodities. For this reason wages must be considered in relation to prices. If one compares, for instance, the union wage scale with the retail prices of food, accepting the figures of May, 1913, as 100, the rate of wages per week for 1918 was 133. The rate of wages per week, full time 130. The retail price of food was 168. Under these circumstances the purchasing power of wages per week as measured by the retail prices of food was only 77.

Nearing, in an article on the Wages in the United States, *Annals of the American Academy of Political and Social Science*, July, 1913, quotes Charles P. Neill (Summary of Wages and Hours in Iron and Steel Industry, 1912) as stating that 16.29 per cent. of the workers receive less than 14 cents per hour (equal to \$10 per week); 69.96 per cent. receive less than 18 cents per hour (equal to \$15 per week); 93.30 per cent. receive less than 25 cents per hour (equal to \$20 per week). This study covered almost 173,000 employees and yet the annual income, if full-time service existed, without deduction from any cost, would have amounted to only a little over \$1,000 a year. Let us contrast, in part

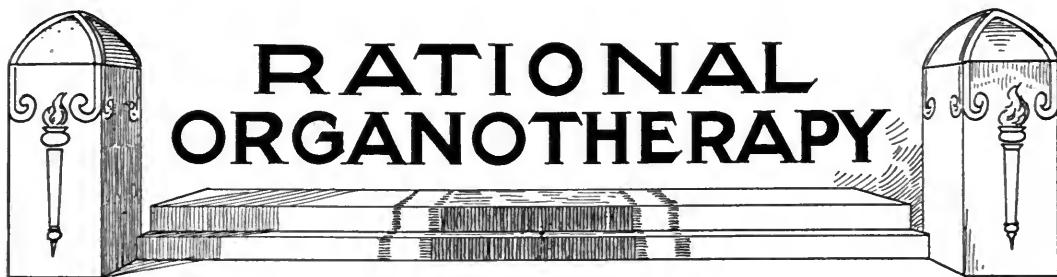
with this, what some of the money would buy on the basis of the rising index for wholesale prices in the United States, using 1913 as 100; farm products rose to 221 in December, 1918; food to 207; clothing to 246; fuel and lighting to 183; drugs and chemicals to 182; house furnishings to 233. Thus is made apparent the importance of considering the cost of living in connection with the actual earnings in order to determine the relative standards of living attainable for the promotion of human health and welfare along familial lines. It must be borne in mind that the family is the most effective nucleus for maintaining national health.

The Massachusetts Minimum Wage Commission, in calculating \$11.54 per week as the necessary minimum wage for single women, set apart 25 cents per week for medical attention. This figure alone is sufficient to indicate one reason why probably 40 per cent. of the population of large cities may be classified as the dispensary type.

(To be continued.)

Healing and Sunlight.—The healing of a sluggish wound may sometimes be much accelerated by exposure to sunlight.—*Ind. Med. Jour.*

Salt Content of Human Milk.—As the result of the examination of about 400 samples of milk taken from the first day to the seventeenth month of lactation, Warren R. Sisson and W. Denis (*Journal of the American Medical Association*, August 28, 1920), found that after the first week, during which slightly higher figures prevail, the average chlorid content of breast milk varies but little, being about 50 mg. per hundred c. c. of milk. The authors feel that diet is not the essential cause in the variation in the chlorin content, and that some other factor must play an important part.



The Metabolism and the Internal Secretions.—Christoffersen (*Ugeskrift for Læger*, July 8, 1920 and *Jour. A. M. A.*, Sept. 11, 1920) gives the metabolic findings in three cases of extreme thyroid deficiency. They show that the elimination of sodium chlorid proceeds normally with thyroid deficiency, and even plus pituitary deficiency, if the suprarenals are intact. The elimination can be augmented by pituitary treatment but not by thyroid treatment. These and other data cited suggest that the suprarenals first, and next the pituitary, control the elimination of sodium chlorid (aside from heart and kidney disease). One of the patients studied was a dwarf, 45 years old. He had been of normal size at birth, but had at once developed gonococcus ophthalmia. The findings suggest deficient functioning of several of the endocrine glands, interfering with ossification and growth in general. The hip joints showed anomalies like those of the Calvé-Perthes disease, but the same findings were observed in other joints. Thyroid treatment was pushed, and the man of 45 showed marked improvement and grew 5 cm. taller, the Roentgen rays demonstrating improvement in the structure and shape of the bones, hair and teeth, but the treatment had to be suspended on account of the great loss in weight. Biedl and Falta have also reported benefit from thyroid treatment in myxedema of twenty-five years' standing.

Gastric Disease of Endocrine Origin.—

According to a Spanish physician writing in the *Medicina Ibera* (October 11, 1919), Hernando remarks that the glands with an internal secretion influence the digestive apparatus not only by their secretions but thru the intermediation of the vegetative nervous

system. Universal asthenia or splanchnop-tosis is probably a consequence of congenital changes of this origin. Gastric secretion may be modified by the functioning of the endocrine glands, but this is usually in the line of hyposecretion altho occasionally cases of hyperchlorhydria are encountered in persons with excessive thyroid functioning (the extract of the normal thyroid has a stimulating action on gastric secretion) and in persons with suprarenal insufficiency (suprarenal extract has an inhibiting action on gastric secretion). His own and others' research has demonstrated that suprarenal insufficiency seems to provide conditions favorable for the development of gastric ulcer, including the status lymphaticus, the modified functioning of the vegetative nervous system, the persistence of or increase in the hydrochloric acid in the stomach, and the low resisting powers to infection in general. He has observed gastric ulcer only in cases with symptoms of extreme suprarenal insufficiency, but probably comparatively mild insufficiency might reenforce other factors in the pathogenesis of gastric ulcer in certain cases. The injurious effect of fatigue and emotions on persons with hyperchlorhydria and gastric ulcer may be explained by the exhaustion of the suprarenals which they induce. This explains likewise the benefit realized as the suprarenals recuperate under repose, or suprarenal extract is given. He gives in conclusion 104 bibliographic references with the full titles, including two from *The Journal* (Friedmann and Kendall).

Ovarian Autointoxication.—Pamboukis (*Gazette des Hôpitaux*, Dec. 11, 1919) asserts that the ovary should be looked on as an eliminative organ by reason of its effect

on the menstrual flow. This is but one of its three functions, the others being respectively, the genesis of the ovum and the production of an internal secretion acting on the whole body, *i. e.*, the general economy. In ovarian insufficiency these functions may all be compromised and hence after castration they should be in evidence. However, it is quite possible for a partial insufficiency to develop and in the clinic this may be seen in the form of amenorrhea without autotoxic phenomena—for the latter develop when the internal secretion of the organ is in abeyance. In pregnancy we may see amenorrhea plus ovarian autotoxicosis. In the nongravid, absence of internal secretion is expressed by increased adiposity and by the hot flushing and other symptoms so evident in the climacteric. These women menstruate as usual. In another type we see absence of the menses but evidence of an internal secretion. The women are chlorotic and may have epimenstrual bleeding. In a third type we see absence of internal secretion and amenorrhea combined. Of interest is the fact that ovulation goes ahead as usual so that conception is possible. A still higher type exists in which ovulation ceases. It is not quite clear whether the author ascribes the toxemia of pregnancy to ovarian insufficiency beyond the occurrence of the usual symptoms of the climacteric which are more or less in evidence in some women after conception. He does not mention any severe symptoms of pregnancy toxemia in this connection.

Basal Metabolism in Thyroid Disease.

—The importance of the estimation of basal metabolism as an aid to the intelligent diagnosis and treatment of thyroid disturbances is pointed out in this article by Rowe in the *California State Journal of Medicine* (September, 1920). The test helps to differentiate the mild hyperthyroid cases from the neurotic and incipient tuberculosis sufferers. It tells the degree of toxicity of an obvious case of hyperthyroidism, be it associated with a hyperplastic or an adenomatous type of thyroid. The metabolic rate determinations must be the guide of all surgeons who would operate most successfully on toxic goiters. As a safeguard to roentgen-ray therapy, it is already a well recognized necessity. Finally, in diagnosing hypothyroidism in its

various degrees and especially in gaging the amount and duration of thyroid administration, basal metabolism has gained a place of great value. Much unnecessary, harmful and unwise thyroid feeding will be obviated if clinicians will administer thyroid only when accurate basal rate determinations indicate it. Rowe also calls attention to the desirability of the modified Tissot type of respiration apparatus as an instrument suitable for installation in an office and one which, tho more time consuming to operate than the portable type of Benedict, yields more extensive information and wider possibilities of investigation in respiration study.

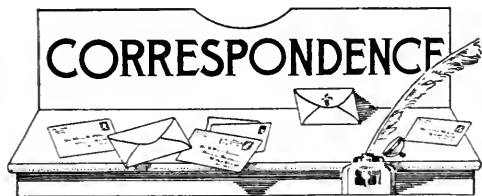
Hyperthyroidism as Responsible for Sterility.—Blondel (*Jour. of the Amer. Med. Asso.*, Dec. 6, 1919) discusses the prevalence during the war of the emotional factors known to cooperate in the production of exophthalmic goiter, and remarks that he has not been surprised to find hyperthyroidism much more prevalent now than in former years, especially in women. Any one of the main symptoms, the exophthalmos, the tachycardia, tremor or goiter, may alone reveal the excessive functioning of the thyroid, and explain any one of numerous trophic and other changes. Chief among these he has noticed a decrease in the size of the uterus. This atrophy of the uterus is possibly the explanation of sterility in certain cases, and as such the causal hyperthyroidism should be combated. There are several ways of doing this, raying the thyroid, injecting serum from thyroidectomized animals, thymus treatment and other means.

He prefers thymus treatment and has been using it for years as the routine treatment in exophthalmic goiter. He gives half of a raw thymus from a lamb, chopped and mixed with a little flour, salt and butter to make small balls that are mixed with soup as it is eaten. Subcutaneous injection of the extract is more active, but less convenient for the patient. Thymus treatment is logical, he reiterates, on account of the antagonism between the thymus and thyroid, and years of experience have proved the soundness of these premises. He warns, in conclusion, that we must be wary in giving iodine in cases of amenorrhea or we may whip up an incipient exophthalmic

goiter. The thymus treatment in these cases of sterility might be supplemented by massage of the uterus and dilatation with laminaria for three or four days, each month or two months. The pathologic condition does not seem to be able to right itself spontaneously, but with this treatment perseveringly carried out good results were obtained in the majority of his cases.

Little Disturbances in Thyroid.—In discussing the treatment of endocrine disturbances Leiner (*The Medical Press*, Jan. 14, 1920) emphasizes the important fact that one must bear in mind that there is glandular confederacy and the disturbance of one gland upsets this entire chain. The symptoms, therefore, are often complex and require considerable analysis. In order to interpret the different symptom-complexes correctly, a knowledge of their physiology is unquestionably necessary.

In closing I am desirous of impressing the fact that for every case manifesting pronounced thyroid disturbances there are at least a half-hundred that show only the "little signs" and it is these individuals that go from one doctor's office to another seeking relief. It is only necessary to keep our eyes open, and the more we treat these cases the further away we will drift from prescribing bromides, iron, quinine, strychnine, etc., which, nevertheless, are often necessary in these conditions.



PNEUMOTHORAX ARTIFICIALIS.

To the Editor,
AMERICAN MEDICINE,
New York City:

Dear Doctor:

I have been requested by Prof. U. Carpi, of Lugano, Switzerland, the General Secretary of the International Association of "Pneumothorax Artificialis," to translate the following circular letter from the French which he had recently sent me, and to cause it to be published in as many of the American medical journals as will

be willing to give it space. May I ask you to extend to it the hospitality of your esteemed paper, and believe me

Very truly yours,

S. ADOLPHUS KNÖPF, M. D.

INTERNATIONAL ASSOCIATION OF "PNEUMOTHORAX ARTIFICIALIS".

LUGANO, August, 1920.

The International Association of "Pneumothorax Artificialis," of which the work was paralyzed during the long war, desires to resume its activity by inviting all former members of the Association to renew their subscription and all other physicians interested in artificial pneumothorax to send their names and addresses to Prof. Umberto Carpi, Lugano, Switzerland, and to become members.

The purpose of the Association is to spread all practical and scientific information concerning artificial pneumothorax. Altho induced pneumothorax for therapeutic purposes has become remarkably prevalent (*Bien que la diffusion de la thérapie du Pneumothorax soit devenue très remarquable*), it has remained a therapeutic procedure applied only by physicians specially trained and experienced in this operation. For the convenience of the patients who may be obliged to change their residences, to know the names and addresses of physicians who practice artificial pneumothorax is of great value, in order that the patient may continue the treatment by periodic refilling. A complete list of physicians practicing artificial pneumothorax will be published with the scientific journal known as *Pneumothorax Therapeutique* for 1920-1921, edited by Carlo Forlanini. This list will be sent to all the members and to the most important medical societies, medical academies, and similar institutions of the different countries. In the journal will be enumerated and discussed all the world's literature on pneumothorax. The Association will continue its labors under the policy indicated by the illustrious master and creator of artificial pneumothorax therapy. As soon as the finances of the society will permit the renewal of the publication, the editor will put himself in communication with the editors of such medical journals of other countries as are publishing articles on artificial pneumothorax. For the present these are *die Sonderhefte des Tuberkulose Centralblattes ueber Lungenkollapstherapie* and the collected monographs in the *Journal La Tuberculose* which appears in Rome. (I trust that our very excellent *American Review of Tuberculosis*, edited by Prof. Allen K. Krause of Baltimore, will be included in this list.—S. A. K.)

The subscription price of 5 francs should be addressed to the General Secretary, Prof. U. Carpi, Lugano. The subscriber is entitled to receive the journal with the list of names. Those who desire to receive the monographs of the journals indicated should make a request for them to the General Secretary who also has an international exchange office for all publications appertaining to artificial pneumothorax. Summaries in English, French and German on any

topic relating to artificial pneumothorax will be gratefully received and published.

PROF. U. CARPI,
General Secretary, Lugano, Switzerland.

PROHIBITION AND TOBACCO.

To the Editor,

AMERICAN MEDICINE,

New York City:

As one of the founders of AMERICAN MEDICINE, I am especially interested in the attitude its editorial columns take upon important questions.

Kindly give me space to review two articles, one in the March, and one in the August issue, entitled, "Prohibition of Tobacco," and "Purifying Life."

Your stand upon other questions making for the betterment of humanity is so generally praiseworthy that I hesitate to take issue with the writer of "Housing and Health" (June number) and "Physicians and Prohibition" or of "Prescription of Alcohol" (July number).

I would like to see AMERICAN MEDICINE stand out boldly for a campaign of instruction of our *children* concerning the use of narcotics, including tea, coffee and tobacco, which have all been proved by careful investigation, to cause serious physical harm to our boys and girls, and to lay the foundation for indulgence in more harmful drugs in later life.

Judging from other editorials, I feel sure that you agree with me in deploring the cigarette peril, now threatening our school boys.

You doubtless know that tobacco consumption has increased by leaps and bounds since 1917.

The sale of cigarettes alone increased twenty-four per cent. in 1918, our total tobacco bill for that year being one billion four hundred million dollars. I know that you certainly would not advise a bread and tea or a coffee and corn-bread diet for babies or for growing children. I believe that tea and coffee lead to the use of tobacco and tobacco leads to a craving for alcohol and alcohol leads to morphin and cocaine.

I beg you not to confuse foods and drugs as you have done in "Prohibition of Tobacco."

Narcotic drugs are all habit-forming, from tea and coffee, which are but mildly so, to tobacco, opium, cocaine and alcohol.

The great difference between foods and drugs is in this habit production. We need no law to protect the public or even foolish individuals from eating articles of food which hurt them, since foods do not bind their users by habit to constant use, in dosage always increasing, as do all narcotic drugs, in virtue of their action, which at first stimulates and then depresses. The depression is the factor causing a demand for restimulation so forming habit, and calling for increase of dosage.

Because some people can control themselves better than others, that furnishes no argument for condoning or continuing the use of any of the narcotic drugs, because they are all habit-

forming and therefore interfere with the very "personal liberty," which anti-prohibitionists talk about so much, for all of these drugs gradually destroy the personal liberty of the addict and bind him in slavery to his drug. If he can't stop using the drug his personal liberty is gone and he can no longer do as he pleases and take the drug or leave it alone, at least without great physical discomfort and craving.

Foods never act in this way and cannot be justly compared with narcotics. Again, the action of narcotics to "soothe, reconcile and satisfy," the soldier, student, athlete, or artisan, is cited; and the "stress and strain" of war or the turmoil of modern business life is given as an excuse for these "innocent vices."

I object to this drug method of relieving exhausted brain, muscle, or heart. We have an endless variety of exercise, play and amusement to suit all tastes, occupations and kinds of exhaustion. Narcotics, I admit, act more simply, but the most simple method would be to club to unconsciousness the weary toiler, that he might forget the strain and stress of life. Doubtless an effective method, but hard on his head. So with narcotics, effective, but hard on the user, physically, mentally and morally, because these drugs when long continued, all tear down tissue, while foods, recreation and play, build up and regenerate and put the man in condition to do his work better on the morrow.

No substitutes for tobacco? Why! there are no end of games and diversions, out and in door sport, suited to all varieties of needs and tastes, for the sedentary and the active, beside music and reading, for those who like them.

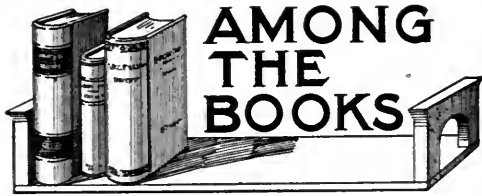
I have very rarely seen strenuous work, when mixed with enough play and when unhampered by vice or narcotics, do anybody harm. It is the way we were made to live, and so keeps away disease. Right living is no hindrance to fun and joy, it does *not* make life "unbearable," but more full and complete. Life is never so joyous, full free and abounding as it is in a man or woman who is living right and obeying nature's laws. Let us teach this to our *children*, and let us work for "pure living" rather than scoff at it. Virtue is not enhanced by an admixture of "petty vice," neither will virtue ever lead to "degeneration of the race." It is the soul that sinneth that shall surely die; we have the Almighty's word for it, while all history as well as every doctor's daily experience proves it true. Vice kills, it always has, and it always will. It should never be encouraged even in its "petty and innocent" forms by our leaders of thought and progress.

I challenge the experiment you quote, claiming increased production of an English factory after a three-hour smoke each day, and I will put up against it, a host of careful scientific experiments by able observers, to prove that which you yourself admitted in a former editorial, namely, that tobacco lowers efficiency in the athlete, the soldier and the artisan. Men like Ford, Carnegie, Edson and Wannamaker, and many other large employers of labor, have found it to be true. Tobacco tends to laziness, selfishness and lack of ambition.

I am not insisting that all present users give up their drug, altho I believe that those in whom the habit has begun to show its harmful effects, ought to do so; but I call upon all good men, who have the problems of humanity at heart to unite in a campaign of *no narcotics* for our boys and girls. Won't AMERICAN MEDICINE help?

Yours most respectfully,
JOHN PAINE TORREY, M. D.

Bartlesville, Okla.



Sex and Life.—The establishment of lecture courses and seminars in colleges to provide adequate information concerning the purpose, method and content of sex education, indicates a more intelligent understanding of the educational aspects of the subject. Efforts have been made to reach college students and, indeed, groups in the secondary schools, and a literature designed for their reading has gradually been developing. Among the recent books is one by Thomas W. Galloway, *Sex and Life* (Associated Press, price \$.75). This brief book for the use of youths, is based upon the biologic interpretation of life with an understanding of the developed psychology that is the outgrowth of sex differentiations. There is a frank recognition of the part that sex plays in the development of personality, and its influence on individual and social progress. Without sermonizing, emphasis is placed upon the spiritual elements rather than the physical aspects of sex, and there is an adequate revelation of the emotional phases of human growth.

A single defect is noted in an over-stressing of the dangers of masturbation. The description of the possible effects is couched in language that might create a more dangerous state of mind than could be produced by one habit itself without the suggestion offered by the author. It is unfortunate that in the stress of psychologic causes, the author has failed to recognize his hazard of over-emphasizing possible damage. There is an actual variation from accuracy leading to the possibility of difficulty ensuing as a result of trying to understand the origin and nature of masturbatory phenomena. With this exception, however, the book is one which physicians might well bear in mind when they desire to recommend some work to youths in late adolescence.

Health and the Woman Movement.—Now that woman suffrage has been granted thru the enactment of the Anthony Amendment, there is

much interest aroused in the attitude of women toward civic responsibility. Women physicians have been valuable guides in pointing out the importance of health. Few persons have been more active than Celia Duel Mosher, Medical Advisor of Women at the Leland Stanford Junior University. In her excellent address *Health and the Woman Movement* (The Woman's Press, price \$.60) she opposes most thoroly the idea of the inevitableness of menstrual disability.

Believing that it is essential for women to compete in health with men if they are to be their competitors in industry, she advocates improving health standards by emancipation in matters of clothing, exercise and activity. The educational value of her ideas of regular adominal exercises for the control of dysmenorrhea has been demonstrated in her collegiate work. In a most forceful, direct manner she attacks the attitude of the average woman toward her periodic phenomena. In this, she strives to counteract the effect of tradition, and to establish a more rational idea concerning its nature and function. The address is well worth the reading of every woman who desires to participate in the labors of the world, particularly those who find themselves in doubt as they arrive at middle life.

Biology.—Biology, ordinarily termed the science of life, has been presented largely as a matter of morphology and physiology. It is particularly pleasurable, therefore, to call attention to *Elementary Biology* by B. S. Grunberg (Ginn & Co., price \$1.56) wherein biology is treated in relation to health, wealth, happiness and efficient living. Written in a style fully as interesting as that found in a novel that challenges one's attention, it deals with man and the race as a central theme around which are woven the dynamic facts of life. Biology has been humanized without an over-accentuation of man's part in the scheme of evolution. Life processes are discussed in terms of relation to man, and as interpretive of the social and economic elements entering into functions. The part of the book dealing with the continuity of life, in a most succinct manner, discusses reproduction in a way that should be eminently satisfactory even to those who fear all references to reproduction in secondary schools. Problems of heredity, environment and evolution are not merely cold, disjointed facts, but are clothed with warmth and feeling, obviously transmitted from the social understanding of an author who is more than a biologist. As an introduction to the science of life there is no book more certain to arouse interest, hold attention, and stimulate enthusiasm for the world we live in.

Speech Defects.—The problem of speech defects has received increasing attention during the past decade. Special classes in schools and public clinics have been organized for the pre-

vention and treatment of speech disorders, particularly of stuttering, stammering and lisping.

The average physician pays comparatively little attention to conditions of this type. Considerable benefit, however, would be derived by a perusal of Scripture and Johnson's simple but carefully prepared *Manual of Exercises for the Correction of Speech Disorders* (F. A. Davis Co., price \$2.00). While the method employed is questioned by some, because of an over-stressing of new habits of breathing, and the development of what is called the "octave twist," adherence to the system will secure reasonable success in the management of most types of speech disorders not dependent upon organic lesions.

The organization of the book is on the lesson basis, with indications thruout for breathing, pauses and inflections. The various vowel and consonant sounds are taken up singly, and suggestions made as to their management in words and sentences, involving rhythms, chants and lengthening of sounds. The exercises for drills and the incomplete sentences for speech building, as well as the material for rhythmic expression are well selected, and possess the distinct merit of literary character. There is every reason to believe that familiarity with this single volume would enable many physicians to attempt treatment of speech defects, in which they now believe themselves to be too incompetent to make the effort.

Health and Will Power.—In the effort to retain or gain health, psychology is of marked importance. The newer psychology with its roots extending deep into sexology fails to appeal to large groups of thinking physicians as a satisfactory mode of attack for all human problems. James J. Walsh writes of *Health Thru Will Power* (Little, Brown and Co.). Those who are familiar with his splendid literary style will appreciate at once the readability of this volume. As stated in the preface, the volume is designed to aid the will to assume its place as a supreme faculty in life, upon which the greatest dependence may be placed for health and recovery from disease. In a genial manner of expression psychanalysis is given due credit, but the general tone is delightfully antidotal to Freudian philosophy. Discussions of dreads, habits, self-pity, and similar themes lead up to the employment of the will constructively in matters of hygiene, and determining attitudes of the mind while suffering from a variety of illnesses. There is a wealth of sanity and shrewd observation in his comments upon human peculiarities and eccentricities, both those of individual and social origin.

While the appeal of the author is more definitely to the lay public, there is a distinct advantage for physicians to familiarize themselves with Dr. Walsh's interpretations of the nature and values of will power as an aid in their daily conscious and unconscious efforts at psychotherapy. Discipline and reeducation of the will are certainly worthy of study as op-

posed to stressing the purely intellectual processes.

Heredity.—The growth of the field of modern biology, particularly in its experimental phases has been so rapid that specialization has become necessary. One trend which has become most apparent, is that of biology as the interpreter of heredity. Evidence is at hand that following Mendel's laws the processes involved in the living organism are being formulated. *The Physical Basis of Heredity* by Thomas H. Morgan (J. B. Lippincott Co.), presents a thoroly modern exposition of the available evidence upon which rests the modern views on heredity. The determination of Mendel's laws with their numerical postulates has been followed by a re-awakening of interest in dominance and recessiveness, but experiment has indicated the need for more thoro investigation of the results of hybridization. The mechanisms of segregation involving the actions at maturation suffices to explain the reality of Mendel's law. Similarly, the assortment of chromosome pairs is found to be of random distribution in accord with the demand of Mendel's law. The author has discussed a highly technical subject with an unusual degree of clarity, whether dealing with the variation of chromosomes, or the theory of mutation. The authoritative nature of the volume is emphasized by twenty-seven pages of bibliography, upon which considerable of the text is founded.

Numerous problems giving rise to discussions of heredity have much light shed upon them thru the fair, unbiased and thoroly scientific approach to the subject that Dr. Morgan evidences thruout his work. While there is a definite biologic belief, one has the feeling that the author is willing to alter his point of view in the face of demonstrated experiment contradicting either his facts or his interpretation.

Psychology.—Physicians are interested in education not merely because of the relations of personal health to mental progress, but because of their parental devotion to the progress of their own offspring. Despite these interests, a knowledge concerning the psychology of education that is sufficiently active to function in advising families appears to be lacking. No physician could read *Educational Psychology* by Daniel Starch (The Macmillan Co.), without an awakening of interest in the personal phases of education, as well as its communal implications. Is the school year too long? How many years should be necessary to cover the present curriculum? What are the variations in human capacities? What provisions should the schools make for personal variations in ability? Are girls intellectually inferior? How far are mental traits inherited? What factors affect progress in learning? What is the value of drill? What is the difference between the disciplinary utility and cultural value of reading and football? English and cooking? Obviously, questions of this type have a practical impor-

tance for parents as well as trained educators. It is unfortunate, perhaps, that physicians are disinclined to delve into fields that they believe belong to the pedagogues. In the present practice of medicine so many opportunities arise for guiding parents in training their children that it is becoming more necessary for medical men to be prepared to give suggestions based upon knowledge rather than opinions based upon old personal experiences, or guesses that arise from the unconscious. Hence, in commending, unhesitatingly, Starch's book we recognize its practical application in the physician's home as well as its usefulness in current practice. It is well written, scientifically arranged, with the evidence well ordered, and rationally discussed. There are many parts, perhaps, that may not appeal to all men, but that holds true for many volumes dealing with purely medical subjects. It may be trite, but is none the less true, that a knowledge of educational psychology makes a man a better physician, as well as a wiser parent.

Public Health and Insurance.—The presence of Sir Arthur Newsholme as a lecturer on Public Health Administration at the School of Hygiene and Public Health, Johns Hopkins University, is a most fortunate opportunity, not merely for his students, but for the general public to whom he also so liberally addresses himself. In *Public Health and Insurance* (The Johns Hopkins Press, price \$2.50) he offers many addresses which contain the fruits of his long experience in public health. The volume is essentially devoted to a discussion of public health problems from the modern social point of view. Some of the titles are indicative of the breadth of his viewpoint. As for example: The Increasing Socialization of Medicine; Medical Aspects of Insurance Against Sickness; The Interrelation of Various Social Efforts; The Obstacles to, and Ideals of Health Progress; Some Aspects of Poverty; Child Welfare Work in England.

What is particularly noteworthy is his emphasis upon the need of cooperation of effort on the part of social agencies, official and non-official, to off-set the obstacles that exist by reason of social organization, in order to ameliorate conditions productive of disease. He recognizes the close alliance between poverty and disease, but is rather more inclined to stress the prevention of illness as of more importance in breaking up the vicious circle, than in instituting an attack upon poverty as such. This does not mean, however, that he ignores the hygienic and social advantages of an adequate family income. His emphasis upon the utilization of present knowledge concerning health by public officials merits consideration, when the same public officials are seeking funds for educational work in hygiene. Most properly he weighs the benefits to be derived from teaching, compared with the availability of the essential means to secure health.

His general position upon state insurance is variously presented in such a way as to measure

up its advantages, disadvantages and limitations. Most of his comments upon this subject, when particularized, are based upon the British Insurance Act which he believes, if it is to continue "ought, in my view, to be shorn of its medical functions." His point of view on the socialization of medicine is basically sound, thoroly constructive, and optimistically founded upon a belief in the desirability of state medicine. He has a firm belief in an elaborate scheme of effective, preventive and curative work.

Books of this type deserve thoughtful reading, because they are thought-provoking. Much of the material herein contained should be on the required reading lists of our medical colleges, in order that the developing physicians may have a contact with a mind that thinks in terms of preventive medicine and public health.



Hyperchlorhydria in Children.—Kerley writing in the *Medical Record* (May 8, 1920) claims that the type of patient considered is the older child, whose appetite is poor in consequence of a condition of hyperchlorhydria or hyperacidity with its accompanying symptoms. The history most frequently obtained is that in the feeding intervals the desire for food is very marked, in fact at times almost voracious, the child being unable to wait until meal-time. He starts the meal very well, but after taking a small quantity of food his appetite is quickly satisfied, and he turns away thoroly appeased. This is repeated time and again, with the same intense initial desire, and the same rapid appeasement.

After eating there is complaint of a feeling of fullness in the epigastric region, often accompanied by indefinite pains in the region of the umbilicus, which may radiate to the right inguinal region, simulating a chronic appendical pain. Accompanying or shortly following this sensation of discomfort are acid eructations of gas, with the resulting heartburn, and burning in the stomach.

The duration of the acute symptoms is variable, disappearing usually in the course of an hour. The breath of these children is usually offensive and the tongue coated. Constipation is the rule. In appearance they are apt to be anemic looking, with sallow complexions. They are moderately under height and under weight, tiring easily on exertion, and they do not have the ability to withstand physical stress. Examination of the gastric juice reveals an increase of both free hydrochloric acid and total acidity.

The prognosis is very favorable for the relief of the immediate symptoms, and if the proper

dietetic and hygienic measures are instituted and followed no subsequent trouble is to be anticipated.

The dietetic history usually obtained from the parents in these cases is that the juice of one or two oranges has been given the first thing in the morning, followed by a breakfast of one or more eggs daily. For the midday meal a highly seasoned soup has been given, or red meat, such as steak or roast beef, has been eaten daily or every other day. In like manner ice cream has formed a favorite dessert. Oftentimes tea or coffee has been constituted an important part of the diet. Between meals candy has been eaten *ad libitum* and ice cream sodas indulged in frequently.

In the treatment alkalies are given to neutralize the excessive acidity. A prescription such as the following, given in water fifteen minutes before each meal, has been found very effective:

℞ Magnesium carbonate, gr. xxx
Sodium bicarbonate, gr. j
Bismuth subcarbonate, gr. j
M. Ft. chart No. xxx.

For the constipation a rhubarb and soda mixture combined with aromatic extract of cascara, in one- to two-drachm doses at bedtime, is indicated.

The diet plays a very important part in the prevention and cure of this condition. The mother is instructed to see that the child has nothing very hot or cold, very sweet or sour. Everything eaten is to be thoroly masticated, and the patient must be made to spend the proper amount of time with his food and to avoid any semblance of rush or hurry. Orange juice, if given at all, is to be allowed only with or after the morning meal; never before. At the beginning of treatment it would be well to discontinue it entirely and to substitute prune juice. The albuminous part of the egg only is to be eaten, as the yolk tends to strongly excite acid secretion. Highly seasoned soups should be interdicted and red meat served only once a week. All excessive sugar, also candy, sodas, ice cream and pastry, are to be avoided. Tea, coffee and ice water are harmful. Raw fruit is not permitted until the appetite has become perfectly normal. A diet of farinaceous foods with milk, potatoes, green vegetables, meats (except red meat), stewed fruit and wheat bread, toast or zwieback, is to be followed. The milk should be limited to one pint a day, with the water taken mainly between meals.

Due attention must be paid to the proper hygienic measures in the treatment of these patients. The right amount of rest is to be insisted upon, especially when the child has been under some mental or physical stress. An entire change of scene is advisable, if possible, for the worst cases, these doing well at either mountains or seashore. For the others, late rising, an afternoon rest period, and a cold sponge bath followed by a brisk rub at night, after a day of healthful out-of-door physical exercise, are valuable aids in the treatment.

Treatment of Epilepsy.—Maillard (*Encephale*, July 10, 1920) described sixteen cases of epilepsy

in which systematic treatment with phenylethyl-barbituric acid (luminal) was followed by improvement far surpassing any he had witnessed under other measures. He states that the results were *réellement merveilleux*. In the discussion that followed, de Fursac cited Ducosté's experience with the drug (dose not over 0.15 gm.). The radical arrest of the seizures was accompanied in some of his patients with certain mental disturbances, violent, impulsive acts and even delirium. Maillard noted the same tendency in some, but it was mild and transient. Laignel-Lavastine reported a case in which the drug has been taken for four years, and the formerly violent and frequent seizures have almost completely disappeared, but vertigo and spasms are more frequent than before. Hartenberg's two patients have taken the drug for six or seven years, and have no further seizures but have become so irritable and irascible that he says it is a question whether they have been really benefited. Claude's four patients have taken the drug for several years and have no further seizures or very slight ones. In one the seizures had been extremely violent, unmodified by bromids and decompressive craniectomy. Maillard's dose was from 0.2 to 0.4 gm. per day for the course. His experience dates only from November, 1919, but he says that it justifies the highest hopes. In one case he increased the dose for two or three days to 0.6 gm. He gives half in the morning and half in the evening, with a hot drink.

Fever Treatment of Mental and Nervous Disease.—Weichbrodt (*Deutsche medizinische Wochenschrift*, June 17, 1920) refers to the published instances of improvement in general paresis, etc., under the influence of an intercurrent febrile infection, and relates systematic attempts of the kind at the psychiatric clinic at Frankfurt. He used spirochetes of relapsing fever as the most convenient and least harmful means of inducing a brief, high fever. The experiences are too recent for a final decision, but the impression to date is that the benefit is not so pronounced as when malarial fever is induced. He has applied the latter method also, but abandoned it as the patient's general health suffered too much from the malarial infection.

Talc as a Substitute for Bismuth in Gastro-intestinal Affections.—Prof. Hayem (*Jour. des Praticiens*, June 26, 1920) recently recommended the use of kaolin as a substitute for bismuth in the treatment of gastric and intestinal affections. Dresch points out the advantages of talc for this purpose. It is very pure, quite inexpensive, and unalterable; it is free of any toxic properties, has no incompatibilities, and can be taken easily in any dose.

Chemically, it is a hydrated silicate of magnesium, of pure white color, and of a characteristic soft and unctuous feeling; it is completely insoluble, and is not affected in any way by acids.

Debove and Arnozau have used it with success in the diarrhea of phthisis, and have given upwards of 200 grammes a day without the least ill effects. It is easier to take by the mouth than kaolin, for it does not stick to the tongue, and slips thru the gullet without any trouble. Its action is simply anti-diarrheic, and it does not constipate like bismuth.

For use as a medicine it is simply taken in spoonfuls and washed down with draughts of water. Debove advises milk for the purpose. It can easily be emulsified in water by the help of gum, and the result is much better than in the case of the heavier bismuth. Dresch, in some cases, gives a dose of liquid paraffin beforehand. It shows its best effects if taken on an empty stomach. Any other drugs can be combined with it. For diarrhea, Dresch strongly recommends methylene blue.

Treatment of Goiter with Injections of Phenol, Tincture of Iodine, and Glycerin.—Sheehan and Newcomb (*Jour. Amer. Med. Assn.*, Jan. 10, 1920) studied the treatment of eighty cases of goiter with the injection of a mixture of equal parts of phenol, tincture of iodine and glycerin. It was noted that no untoward results followed the injection of the phenol preparation into the goiter, altho in four of the ten cases subsequently operated on, some difficulty was encountered in separating adhesions between the anatomical and surgical capsule, caused by a leakage of the fluid as the needle was withdrawn from the gland. It was determined that the injections were particularly efficacious in the ordinary parenchymatous goiters of young women, resulting in the cure of 76.4 per cent. of the fifty-five patients of this type treated. This preparation seems to have the effect of relieving the thyrotoxicosis, as in exophthalmic goiter, but unfortunately, the relief is only temporary. It also quiets the heart's action, improves the appetite, has a favorable effect on metabolism, stays emaciation and reduces the mental irritability. This treatment is especially advised as a preliminary in these cases when operative interference is deemed necessary. No beneficial results were noted in the cystic and colloid forms, and it is probable that harm and much respiratory discomfort may result by enlargement of the gland, if this form of treatment should be continued with any degree of persistency.

that a pleasant, refreshing beverage and a nourishing food combined in one product is found in buttermilk. It contains practically all the food materials of whole milk with the exception of the fat, most of which is removed in the process of churning. Buttermilk contains about 3 per cent. of protein, nearly 5 per cent. of carbohydrates in the form of milk sugar, 0.7 per cent. of mineral constituents, and 0.5 per cent. of fat. Thus, a quart of buttermilk furnishes slightly more than an ounce of protein, one of the chief body builders.

The increasing consumption of buttermilk testifies to its popularity as a beverage. People are beginning to realize that it is much better to drink a glass of milk or buttermilk than it is to consume other drinks having little food value. Many physicians recommend buttermilk in the treatment of certain intestinal disorders, and it is also gaining in favor in hospitals.

Prepared buttermilk usually is made from skimmilk and has all the chemical properties of buttermilk. If it is churned, as is usually the case it agrees in appearance and flavor with real buttermilk. In fact, often it is a better product, especially if clean, sweet buttermilk can be made in the city home, but more uniform results can be obtained when it is made on a large scale and, for that reason, it usually is better to purchase it from a reliable dealer.

Buttermilk Lemonade.—A delicious variation may be made from ordinary buttermilk by the addition of lemon juice and sugar. "Buttermilk lemonade" usually requires the juice of three lemons to one quart of buttermilk. The quantity of lemon and sugar, however, should be varied to suit the taste of the individual. The beverage is delightful and is especially refreshing on a hot summer day.

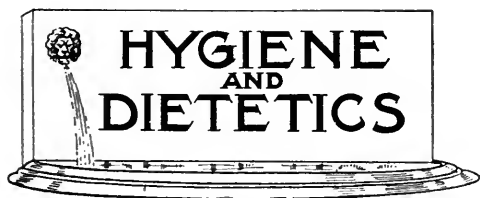
Lacto.—The Iowa Agricultural Experiment Station, in *Bulletin 118*, describes a number of ways in which sour milk or buttermilk may be converted into frozen delicacies. The following formula is adapted from the *Bulletin*:

- 2 quarts buttermilk
- 2 pounds of sugar
- 2 eggs
- 1 $\frac{3}{4}$ cups orange juice
- $\frac{1}{2}$ cup lemon juice

Dissolve the sugar in the buttermilk and add the eggs, the yolks and whites beaten separately. Stir and strain the mixture and add the fruit juices. Freeze in the usual way, and pack in ice and salt for an hour before serving.

Of course, buttermilk may be used in cookery in any recipe calling for sour milk.

Compatibility of Foods.—Allan (*American Journal of Clinical Medicine*, September, 1920) claims that digestion is a chemical process, while it is also mechanical and mental; and, compatibility demands consideration in the preparation and mixing of foods as much as in the preparation and mixing of medicines—if the single remedy or monodiet, respectively, is not the rule, an extreme that (altho sometimes ideally correct) is not the best general practice, certain combination of drugs and of foods being



Buttermilk a Food Drink.—A writer in the September issue of *The Medical Brief* states

far more effective than the single remedy or monodiet.

Sugar and alcohol, egg albumen and strychnine, differ less than we are apt to think; as does also the chemical action of malic (apple) and lactic (buttermilk) acids on starch—or, rather, their neutralizing of alkalinity of the saliva, largely preventing digestion of starch, thus favoring fermentation, or the abnormal coagulation of albumen by heat above 160° F. and by all acids but the organic hydrochloric of the gastric secretions. These are chemical facts far more worthy of consideration than those that may determine life or death in the combination of drugs, since, aside from the not infrequent death due to heart failure caused by acute indigestion, following a meal of incompatibles, chronic indigestion and the disorganization of the secretions, which appears to be the prime cause of cancer, are due chiefly to continuous incompatibility of foods.

Pavlov discovered that each food produces or tends to produce, its own peculiar secretion. This suggests the third rule for compatibility: The foods eaten together should be such as digest in about the same manner. Flesh and fruits are especially incompatible under this rule; bread and milk are especially compatible.

Fats prevent the digestion of protein and starch by retarding the mixture of the digestive secretions. For this and other reasons, fats are best eaten with fruits.

In the preparation of all made dishes and in the arrangement of the menu, especially of the invalid, compatibility should be duly considered.

This is the first statement, outside of my own publications, so far as I know, of my principles of compatibility, altho lists of compatibles and incompatibles have been published, without mentioning investigation or principles.

The Dietary Value of Fruits.—"Why do we eat fruits?" the *Journal of American Medical Association* (August 7, 1920) asks editorially. "Few persons have stopped to consider the answer to this question, and it is somewhat doubtful whether an entirely satisfactory reply can be formulated. It requires only a moment's reflection, however, to conclude that any group of food products which enters so extensively into the dietary of mankind must have some virtue worthy of notice. Investigators are agreed that the fruits do not rank high as sources of energy to the body. Otherwise expressed, their calorie values are rather low in comparison with the preponderance of the common food products. The fruits are almost without exception devoid of fats and poor in protein; at most the true nutrients are represented by a small content of carbohydrate, such as the sugars in the banana and the orange. Water forms a large part of their make-up in every instance.

Writers on nutrition in the past have been accustomed to refer to the value of the "mineral nutrients" in fruits, altho it would be difficult, indeed, to make any unique claims for them in

this respect. Of lime or phosphoric acid, for which the body is most likely to feel a need at times, the fruits surely cannot be regarded as valuable contributors. Many of these plant products contain organic acids, notably in the case of the citrus fruits. To these, dietary tradition has ascribed a laxative potency. When it is recalled, however, that most of the fruits also contain more or less indigestible vegetable constituents, such as waxes, gums and cellulose-like carbohydrates, one may well hesitate to choose between organic acids and "roughage" for an explanation of the laxative action popularly accepted.

Certain fruits, as well as a number of green vegetables, have long been understood to exhibit a quite different potency best expressed in their antiscorbutic effects. The latter are now ascribed to vitamins, that group of as yet ill-defined properties or substances which promote well-being in ways that still require elucidation. However indefinable it may be at present, the rôle of orange juice in averting disaster under certain conditions of feeding or in promoting the nutrition on certain dietary regimens is beyond dispute.

Aside from the recognized value of various fruits as antiscorbutics, a reason why they may be used liberally in the diet is given in the new investigations of Osborne and Mendel. They have demonstrated that the fresh juices of the edible parts of the orange, lemon and grapefruit contain the vitamin frequently spoken of as water-soluble B or antineuritic vitamin. The efficiency of these juices is not lost by suitable modes of desiccation. It is, indeed, surprising to learn that the potency of orange juice, for example, in the water-soluble vitamin, is comparable, volume for volume, with that of cow's milk. This must not be understood, of course, to apply to the nutrients as sources of energy, but only to the content of vitamin. It is even hinted that orange juice may contain some fat-soluble vitamin; if so, it will have been demonstrated to yield all the at present known types of vitamins. Little wonder that this citrus fruit has acquired a dietary popularity. The advocates of a national temperance drink may be disappointed in the relatively poorer showing of grape juice as a source of the vitamin.

Apples and pears are not devoid of vitamin of the water-soluble variety, tho they cannot be rated as rich in this food factor. Prunes are apparently somewhat richer in it. Osborne and Mendel justly remark that the new observations with fruits place the dietary value of these foods, hitherto recommended because of their salt content, their laxative properties, or their antiscorbutic property, in a new light as sources of water-soluble vitamin. It is not justifiable to ascribe superior virtues in this respect to all fruits, for the banana has already been found lacking in pronounced vitamin potency. What a vitamin-containing product like the orange may contribute to nutrition in man has been demonstrated in the growth of infants by Byfield, Daniels and Loughlin. The fruits always regarded as palatable, are having their real worth established at length in a scientific way.

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In Advance

The Notification of Diseases.—It would scarcely appear to be necessary to urge upon the medical profession the importance of abiding by regulations involving the notification of diseases. In *Public Health Reports*, October 22, 1920, J. L. Bowman presents numerous arguments why reports should be made, particularly in communities where no local Health Department exists. The value of statistics of preventable disease is marked, if communities desire to protect themselves against avoidable illness with consequent loss of time, suffering and possible death. The burden of responsibility may possibly be placed upon civil authorities but, nevertheless, there is a heavy obligation upon physicians to support health measures and fulfil their duties as law-abiding citizens, and to reap the benefits in terms of improved familial protection.

Every individual physician is a potential health officer, and failing to report notifiable diseases he does not live up to his responsibilities, nor does he function in a superior way as a citizen. Discussion concerning red-tapism does not suffice to excuse failure to participate in carrying out laws designed to benefit communities. It should not be necessary to point out that physicians have special duties to the state by reason of the special privileges granted by the state. Nor should it be essential to constantly issue mandates to the medical pro-

fession to procure an adequate recognition of the importance of all statistics whether dealing with morbidity or mortality.

A large measure of the knowledge underlying modern medicine is based upon the interpretation of specific data relating to maladies that have been studied, investigated and surveyed, and finally synthesized on a scientific basis. Much of our knowledge of symptomatology and the relative importance of particular symptoms is an outgrowth of statistical studies. Our information concerning therapeutics has developed from the accumulative study and statistical analysis of numerous remedial agents. Epidemiology demands the careful reporting of all diseases capable of spreading in a community; otherwise it is impossible to combat contagion successfully, or to undertake a sanitary project with promptness, and the certainty that efforts will be directed to the proper focus of infection.

Physicians should not be permitted to discriminate as to the diseases which they will conscientiously report, but should feel in conscience bound to give notification of all those diseases listed by the public health authorities or state officials as being included under the head of notifiable. The medical profession gains in force thru its own efforts at notification, and the sum of medical knowledge is increased thru its efforts to aid the state in controlling and limiting contagion. Dr. Bowman writes, "specialists

and surgeons, almost as a unit, seem to consider themselves beyond the law. Rarely does a surgeon report a case of cancer, tuberculosis or syphilis." If this statement be accurate, there is every reason to inquire why the constituted authorities do not exact penalties provided for violations of the notification laws. No group of physicians is beyond the law, nor should it be permitted to believe that it is without responsibility for carrying out its obligations to the general community as provided for in existent laws. There may be some overlapping in notification, a trifle extra labor involved, but every physician should, none the less, report every instance of notifiable diseases coming under his observation.

Every Disease Selected for a Definite Reason.—Every disease prejudicial to public health that has been incorporated in the notifiable list has been selected for a definite reason, and not as a result of arbitrary selection. Information concerning them is essential for the promotion of public health work for further knowledge as to the etiology or spreading of diseases under varying conditions concerning many of which no data are available. Furthermore, notification constitutes the foundation stone of disease control and eradication. It serves to discover foci of infection or centers of disease that demand immediate efforts for limitation or eradication. This is certainly an opportunity for living up to the ethics and ideals of medicine in so far as these relate to duties and responsibilities of the medical profession to the public interest and public welfare. Where a medical conscience is not responsive to the rational appeal of duty and obligation in the citizenship, penalties should be visited upon the offender in order that more thought may be given to the worth of laws designed to protect the public weal.

International Mortality.—In the field of internationalism one element creates no discord. While the League of Nations is still considering whether the Central Empires shall be admitted to membership, the International Conference on the Causes of Death was attended by representatives from Germany. Forty-four nations participated in an endeavor to standardize statistics of death in such a way as to make comparisons possible of the reports of death in all sections of the civilized world. Dr. Haven Emerson, who served as an American delegate, reports in the *Survey*, November 13, 1920, that agreement was made to report deaths by sex and by age groups in sufficient detail to be useful for the analysis and planning of public health propaganda and education on the basis of international data. The value of this arrangement is patent when efforts are being made to attack problems of disease on the large scale that is necessary to insure national protection against epidemic diseases.

The development of public health administration and the advancement of much knowledge concerning the etiology of disease during the past decade, have made it necessary to effect modifications in the international classification of causes of death. The necessity of these changes is evidenced in the extensive variation of administrative action in connection with syphilis, meningitis, poliomyelitis, lethargic encephalitis and other disease states which have been particularly investigated and studied during recent years. The recognition that classification of disease is not static, but must undergo development commensurate with modern knowledge makes it possible to modify our nomenclature along practical lines that will lead to more effective administrative control.

If statistical changes are made in states

or nations and are not adopted universally, there is considerable difficulty in understanding the comparative inroads of disease and deaths in other countries. The adoption of a universal system possesses numerous advantages, but does not preclude necessary improvements to meet the needs of specific countries or their sub-divisions. It is important also that thruout the United States there be adopted a uniform system of classification so that all state reports may be harmoniously compared and understood by investigators of epidemiology, health administrators, or educators with a special interest in education for health. The more nearly international statistics serve as the basis for national data, the more intelligent become the programs that are devised to combat disease as it now presents itself.

In politics and commerce there may be competition and varying degrees of international aloofness, but it is impossible to deny that in matters of health the only competition desirable is in willingness to cooperate for the benefit of the international mass of peoples. The United States is not isolated from the health problems of Europe, Asia or Africa. New York State is interested in the progress of the plague in the West, malaria in the South, leprosy in the North, and typhoid fever in the East. Similarly, the United States is vitally interested in the cholera, typhus, plague, influenza, tuberculosis, syphilis and other decimating diseases which, along with starvation, are devitalizing Europe and the East.

War occurs from and thrives upon animosities, hatreds, greeds and nationalism. The war against disease, however, flourishes upon fraternity, cooperation and an international conscience.

In this struggle for international health, vital statistics are of unusual importance.

Medical Phases of Delinquency.—Problems of delinquency, particularly during childhood, have received inadequate consideration from the medical standpoint. Recognizing the important part that is played by economic and social status, with their consequent environmental influences, it is by no means strange that these have been regarded as basic in the causation of juvenile delinquency. In the *Journal of the American Medical Association*, October 9, 1920, Sanger Brown, calls attention to various types of children which he classifies as hyperactive, hypoactive, and the emotional and anxiety types; also those whose nervousness is due to a faulty function of the endocrine organs. In addition to these groups he adds the true mental defectives. He recognizes, however, the importance of personality studies, incident to understanding the factors combining and resulting in delinquency, as a serious step in determining the ultimate diagnosis in establishing a prognosis, and in clearing up the individual problem.

The point of view that recognizes the vast difference between a character in process of formation and one that is fixed in its habits, creates a responsibility for attacking the juvenile delinquent during the early period of life, and stresses, above all, the necessity of an appreciation of the nature, methods and value of mental hygiene. In view of the fact that this phase of psychiatric work is of exceedingly recent development, it is readily appreciated that a considerable part of the problem of delinquency has been due to a failure to understand childhood and its problems. Children are not all of the same mold, while

our efforts to deal with them have been mainly based upon a single plan of approach, organization and development. The general social attitude towards children, which has been satisfied to class them as "bad," "hazy," "stupid," "silly," "vicious," "dawdling," "liars," "thieves," etc., has failed to grasp that the application of such terms is unscientific and evasive of the real issues causative of the manifestations thus denominated. This social attitude assumes an adult standard for juvenile conduct which is completely at variance with the truth of juvenile development, and the fundamental differences existent between the psychology of childhood and of adult life.

The maladjustments of the developmental trends modify and are modified by factors which may be determined and varied so as to protect growing character and lessen the likelihood of the establishment of undesirable or antisocial traits of character or habits of conduct. From the medical standpoint it is unsound to regard erring children as intrinsically abnormal. This position is opposed to a rational consideration of the juvenile problems. It is essential, therefore, that the medical treatment of juvenile delinquency take cognizance of the physical disorders, the mental incapacities, the emotional instabilities and the personality trends, as well as utilize facts concerning the heredity, social, economic and environmental circumstances which influence, but are not inherent in personality, as a basis of appreciating the origin of delinquency and of treating it.

Preventive treatment is the paramount need in the management of juvenile delinquencies. This course of action, however, remains static unless there is a medical appreciation of the bases of delinquency and

a well-established plan of investigation of the individual delinquent. The dynamic coordination of social, legal and medical agencies is essential in formulating a policy with reference to the problems of childhood. The Juvenile Court already recognizes the importance of such a step, and the development of the parole system evidences a reasonable degree of trust in the efficacy of the treatment suggested and organized on the basis of the coordinated investigation of the individual delinquent. The Big Brother and Big Sister movements have also sought to utilize the information gained from cooperative study of the children under their guidance. The attitudes of communities, with reference to education, recreation and similar factors affecting the environment of childhood, also reflect an understanding of the relation such institutions bear to the normal development of children. It becomes more necessary, however, for physicians to appreciate their place in the scheme of protecting society from the hazards, present and future, arising from delinquency. It is important that they give greater consideration to delinquency as a medical problem, even tho there be a certain overlapping of fields now occupied by students in allied sciences. The management of a delinquent assuredly is of as great importance as the treatment of nephritis, or the surgical removal of a diseased appendix. A defective personality demands as much study and effort at cure as does defective vision or a maimed body. Delinquency merits the thoughtful attention of the medical profession.

Individualized Education.—The growth of social interest in atypical individuals or groups in the community is well evidenced in the splendid provisions being introduced

for the education of physically, mentally and morally handicapped children. The most striking evidence in school administration has been the adoption of a policy that recognizes variations in the organization of children and aims to afford educational opportunities under public auspices that are commensurate with the needs of the children of the community. In the City of New York, for example, where this policy is evidenced practically and intelligently, there is a wide diversity of classes organized for promoting the general welfare of the blind, the anemic, the crippled, the deaf and the tuberculous, as well as those with organic heart disease and high degrees of mental defectiveness. No longer are children of these types permitted to fight for educational existence in the limited confines of their afflicted homes; nor are they obliged to compete for education upon the same grounds as children free from these special handicaps. Fully 3 per cent. of the number of organized classes are devoted to the welfare of these specially handicapped children. In addition, approximately one-half of one per cent. of the school population are receiving special instruction for the correction of speech defects, tho this is practically only about one-eighth of the number known to require specific care of this type.

What is more significant, from the medical standpoint, is that the organization of classes for defective and physically handicapped children establishes a low register as the optimum for effective educational accomplishments. This is, of course, largely due to the fact that such classes are mainly ungraded in type, and more nearly approach the age conditions found in the one-room district school. While half the classes of the New York school system average between forty and fifty children per teacher, there are 451 classes for physical and men-

tal defectives with registers averaging less than 25 per teacher. These low registers indicate a move in the right direction, but should be equally available for the education of children free from organic defects. The only offset to this is an awakening to the importance of extending equal educational advantages by means of rapid advancement and opportunity classes which aim to increase the content for children with an unusually high intelligence quotient, or those apparently requiring special provision to enable them to make up some particular subject in which they are far behind their general plane of knowledge for the rest of the curriculum. In these classes the median register lies between 35 and 40.

The tendency to reduce the number of oversized classes and to form new classes on a basis of lower registers is, naturally, limited by available funds. It is hardly necessary to enter into an argument to defend expenditures designed to decrease the educational burdens of teachers, and to increase the educational opportunities for children. The more adequate the classification within schools and the fewer crowded classrooms, the more hopeful becomes the situation. Splendid as are the accomplishments of public school systems, their shortcomings must be attributed to a failure of the public to recognize the aims of its own educational agencies. Large groups cannot be as advantageously handled as small groups. Unassorted children cannot be as rationally approached as equal-sized groups of children classified according to their mental potentials and their physical limitations. No one today accepts the dictum that all children are born free and equal; nor is it possible to conceive of a continuing equality among all children born, even tho at birth, seemingly, they evidence a likeli-

hood of physical and mental equality. Mass education by static, rigid methods applied to all individuals possesses the same weaknesses as shot-gun prescriptions, or uniform dosage in medication. It is essential that the individual receive his educational prescription according to the symptoms or the underlying disease indicating the need for special attention. Such a diversification of educational medication becomes possible when there is a system of classification for the student body, and an opportunity for the individual study of children by their teachers. This becomes possible only when classes are of more moderate size than is the current practice in large cities.

The indicated changes cannot take place, however, until the general public recognizes the value of supporting the policies outlined by educational authorities of social breadth and educational vision. The costs must be borne by the communities whose children are to enjoy the educational advantages. The shortcomings in the educational systems, in large part, may be attributed to the neglect or indifference of the general population to the personal and communal benefits that accrue from individualized education. It is all the more regrettable that physicians, as parents and taxpayers, do not manifest their interest and give the strength of their opinions to supporting the efforts of those charged with the responsibility of advancing the educational advantages of their children. There is far more sympathy with the efforts to discharge civic obligation to the handicapped, than to afford equally great opportunities to the rank and file of children in attendance upon schools. Until there is due recognition of the increased value of more individualized education for all children, there are bound to be lamentable errors and hazardous methods employed in

advancing the complete welfare of children in our public schools along the physical, mental and moral lines that seek to culminate in the desideratum of education, which is a cultured, efficient and socially adjusted character.

Infant Mortality Studies.—Facts relating to infant mortality are constantly being accumulated. No small part of our knowledge has come from carefully organized statistics. In the *Public Health Nurses' Bulletin*, New York State Department of Health, September, 1920, O. R. Eichel, Director of Division of Vital Statistics, presented a chart of infant mortality in New York State, exclusive of New York City, comparing the figures of 1916 with those of 1919.

It is noteworthy that the absolute mortality has decreased as well as the relative mortality rate. It is more encouraging to note that the mortality rate for infants of foreign born mothers has decreased more markedly, and more nearly approaches the average of mortality of infants born of native white women. While the total number of births of colored mothers decreased, and the infant mortality likewise decreased, the infant mortality rate actually increased among infants of colored mothers, because of the disproportion between the drop in births and deaths. During the two years compared there were 235 fewer births, but only a decrease of 21 in the number of deaths.

It is particularly significant that the infant mortality rate from particular causes may decrease, while the relative percentage from the same particular causes may increase. To illustrate: In 1919 the infant deaths from acute bronchitis, bronchopneumonia and pneumonia were at the rate of

13.1 as opposed to 14.0 in 1916, while the percentage of deaths under one year due to these causes was 15.1 in 1919 as compared with 14.7 in 1916. Or again, while the infant mortality rate from congenital debility, malformation and premature birth fell from 35.1 in 1916 to 33.9 in 1919, the percentage of deaths from these causes rose from 36.6 in 1916 to 39.0 in 1919. It is important, therefore, to recognize the relative percental increase of certain causes of infant death, despite a decrease in the mortality rate from these same factors of morbidity.

The difference between the active causes of death is well illustrated by contrasting the percentage of deaths from various causes due to particular disease groups as affecting children of native white motherhood on the one hand, or foreign born mothers on the other. The infants of native born mothers show high percental deaths from congenital debility, malformations, premature births and birth injuries, while the infants of foreign born mothers show a high percental mortality from measles and whooping cough, acute bronchitis, bronchopneumonia, pneumonia and the infantile diarrheas. In other words, the factors causing the highest percental of infant mortality among infants of native born white mothers are those which are operative before or at birth, and influence the mortality of the first month of life. This is more striking in view of the fact that foreign born mothers make the greater use of midwives, altho this may be, in a measure, protective, because under the law a midwife is obligated to secure medical consultation in event of any obstacles to normal labor. The respiratory and gastrointestinal diseases, afflicting to a larger extent the infants of foreign born mothers, manifest

their greatest effects on the mortality after the first month of life.

It is patent that one cannot deal with infant mortality increases without resolving them into the component elements which are well illustrated in a statistical analysis of the percental distribution of the principal causes of death. A study of this type further indicates variations in administrative methods that may be required to combat the causes of death as reflected in the different nationalities of mothers. The slow gleaning of facts arises from focusing attention upon statistics of different communities, and local procedures can be developed only by an understanding of local problems. It is advisable, therefore, in studying problems of infant mortality to grasp the significance of the percental distribution of deaths in order that morbidity may be reduced, because the ratio of morbidity to mortality varies according to the etiologic elements involved.

Infant mortality statistics are of vital importance not as a mere presentation of facts in numerical terms, but as revealing circumstances and conditions which, after due and proper interpretation, may be adequately attacked or solved thru the utilization of all available agencies of a public or private character.

Public School Clinics.—The introduction of public school clinics in connection with the growth of mental hygiene service affords an opportunity to communities to determine the number of feeble-minded children in their midst. Great as this service may be, a school clinic serves a broader purpose to the educational system by differentiating children who are retarded in school work, by examining truants, by segregating for special classes those children requiring

such treatment, by promoting the welfare of special classes and by securing the elimination from schools of those who should receive some special type of institutional care.

The value of a school clinic from the viewpoint of mental diagnosis is emphasized by E. E. Woodill, *Mental Hygiene*, October, 1920, but unfortunately there is inadequate stress placed upon the physical benefits which might accrue from such a procedure, or its administrative usefulness as a unit place for investigating the general health of school children. After all, mental growth and development are not completely independent of physical welfare any more than physical well-being is an isolated phenomenon unrelated to mental and moral factors.

In the general field of diagnosis physicians have been prone to view individuals from their particular, special angle. The sub-division into specialties has, to a large measure, interfered with complete examinations, just as laboratory research has secured a dominance over physical examinations in the determination of causal factors creating invalidity. It is essential for the complete diagnosis of school children or adults to secure a wide variety of knowledge and information dealing with the subjective and objective lives of patients. Dr. Fernald has established ten fields of inquiry that are involved in the diagnosis of the higher grades of mental defect, but these are also worthy of consideration in varying degrees in arriving at diagnostic and prognostic conclusions in the management of persons above average, as well as those below the accepted standards at all ages. He cites the necessity of the following inquiries:

1. Physical examination.
2. Family history.
3. Personal and developmental history.
4. School progress.

5. Examination in school work.

6. Practical knowledge and general information.

7. Social history.

8. Moral reactions.

9. Economic efficiency.

10. Psychologic examination.

To a certain extent, most of the items above mentioned enter into the average medical history, tho for the most part fully one-half of them are slurred over as of relative unimportance. A moment's consideration will indicate the essential character of each of these headings in questions of diagnosis wherein mental hygiene may be involved. It requires little imagination, therefore, to recognize that all or any of them may prove of paramount importance in differentiating physical from mental causation in a large variety of conditions which require unusual care and experience for their correct management. The selection of any one of them in preference to all the rest would result in a one-sided point of view, and would fail to safeguard accuracy. Economic efficiency, for example, in the late adolescent child might serve as a point of departure that would reveal the necessity for physical or psychologic examination, or a study of the social history. The developmental history of an adolescent may be more satisfactorily interpreted thru a knowledge of his school progress, an estimation of his practical knowledge, and his moral reactions, supplemented by a physical examination and an adequate family history. Only in very young children is the economic history of little value, tho even in such instances the economic status of the family is frequently useful.

While Dr. Woodill describes the organization of a traveling clinic, comprised of a psychiatrist, a psychologist, a teacher and a school nurse, there is no reason why a

similar fixed group should not be available in large urban centers where individual school populations are larger than the total number of persons residing in many villages. A great amount of benefit would result from the installation of public school clinics in communities of all types. In the absence of such clinics there should be made available for diagnostic purposes some type of class or clinic capable of giving adequate study to school children who are maladjusted in the educational system. In the interest of the child, the schools and the community there is a need of some organized effort to establish the type of clinic either in permanent or mobile form so that educational systems may function with greater effectiveness. The community may be protected, on the one hand, or strengthened, on the other hand, thru the determination of the elements requiring alteration in order to secure for every child that educational environment which will offer opportunity for its maximum potential development.

Scoring Health Activities.—For the purpose of comparison of administrative activities of various communities, it is essential that some uniform standard be adopted. Examples of scoring are particularly common in connection with the standardization of milk production and control, the regulation of factory and housing conditions, and similar phases of activity where more or less arbitrary devices have been used for surveying existent conditions with a view to their improvement.

The New York State Department of Health has provided a system of scoring the activities of cities with a population of 25,000 to 175,000 inhabitants. The arrange-

ment of the score on the basis of 1,000 points for perfect service indicates the relative importance at present placed upon various forms of public health functions. The distribution of credits as at present devised is as follows:

"Communicable Disease Control":

Health News, October, 1920:

Tuberculosis, perfect score	60
Venereal diseases, perfect score ...	70
Other communicable diseases, perfect score	80
Adequate laboratory facilities and use of same	100
Infant and maternal welfare	90
Milk and food inspection	100
Water supply	100
Sewage, garbage and manure disposal.	40
Record keeping	85
Public health education	120
An appropriation of at least 50 cents per capita for health protection ..	100
Effective enforcement of regulations governing barber shops, common towels, drinking and eating utensils	20
Unusually meritorious public health work along either new or old lines	35

Total1,000

It is patent, that the main stress is now placed upon public health education and an adequate monetary appropriation for health protection, appropriate laboratory facilities, the inspection of milk and food, and the maintenance of a safe water supply. Communicable disease control, while accounting for 20% of credits, carries with it the recognition that public health education and laboratory facilities are necessarily involved in scoring the control of these diseases. In fact, there is a considerable overlapping of service with the separate items which are

considered. Certainly, infant and maternal welfare has bound up in it education, record keeping, milk, food and water inspection, and general provisions for the control of communicable diseases. Similarly, anti-tuberculosis service requires laboratory service, record keeping and education.

The general function of a scoring system is to afford some system of comparative estimation of public service as compared to the opportunities for effective health protection. The utilization of this device is of the greatest service when publicity is given to the results obtained in various communities, and state inspection results in an effort to raise the standards of those communities possessing low scores. The score card itself reveals facts which must be interpreted, judiciously reviewed, and constructively acted upon, if any benefit is to be derived. In so far as state appropriations are involved, scoring systems are of exceedingly great value; and, similarly, they may become so for communities desirous of checking up their accomplishments against their possibilities thru making the readjustments in their budgetary appropriations.

A wider use of scoring systems applied to public health service would be of inestimable advantage. Sub-scoring methods might be applied as has already been done in fixing standards for hospital and dispensary service, campaigns against venereal diseases, public health nursing service, and other sub-divisions of service in which medical problems predominate. If it were possible for county societies, working thru their state medical society, to effect standard scoring systems for various phases of medical work, there would be a great gain to the general public and a considerable degree of stimulation to the activities par-

ticipated in by the profession, with a benefit to the medical profession as well as to the community.

Anti-Vivisection Legislation.—The electorate of the State of California was called upon at the recent election to decide whether an anti-vivisection law should be approved or rejected. Animal experimentation, controlled in the interest of science and humanity, was threatened by misleading propagandists and zoophilic reactionaries. There was little doubt as to the outcome, however, and the voice of the people responded in a tremendous outburst of sentiment, expressed in votes, against the measure designed to do away with vivisection in the State. This result is gratifying, particularly, in view of the fact that vivisection is now limited to the three medical colleges in California, and no cruelty cases have ever been reported or brought to court. The people of California have recognized the benefits that have been attained for crops, beasts, and mankind thru the practices of scientific vivisection.

If ex-Premier Orlando's definition of a vote, as an expression of economic interest, be deemed reasonably correct, it obviously must include a connotation that health is related to economic progress. This point of view is emphasized in an interesting way, by the fact that the Agriculture Legislative Committee of California farmers disapproved the anti-vivisection initiative measure on the grounds that such legislation would be inimical to the control of the diseases of all varieties of live stock. If the term live stock were expanded so as to include the offsprings of the farmers instead of their cattle, the soundness of their position would be emphasized. It is patent, therefore, that their economic interest, in-

cluding health, has a commercial basis which will function most serviceably in pointing out the hazards to farmers and cattle raisers in event of the passage of a law that would interfere absolutely with any further study or investigation of diseases of animals utilized for human consumption, or supplying commodities available for feeding human beings and other animals.

It is needless to discuss at length the benefits that have accrued in the management of epidemic diseases, surgical operations, the control of food supplies and the protection of the cattle industry as a result of various types of research that have involved vivisection methods. There are, already, adequate laws upon the statute books of most states to prevent cruelty to animals, but this apparently, is not the fundamental concern of those opposing intelligent and humane vivisection. There is some primary mental twist that inhibits an appreciation of human life, or involves some type of identification that seeks, as a health preventive measure, a law against animal experimentation.

The people of California, responded nobly to their responsibility, and the outcome indicated the degree of understanding of the general public of the part animal experimentation has played in diagnosis, the prevention and the treatment of disease. The Californian voters showed an intelligent appreciation of the value of the lives of guinea-pigs and white mice, ground squirrels and rabbits as compared with the health and welfare of their sons and daughters. In their enlightened vote will be found an expression of gratefulness for past accomplishments, and an abiding faith in the future control of diseases antagonistic to the welfare of man and the state.



British Doctors' "Humiliation".—The press of Europe, notably the press of France, is shocked at what it considers an act of humiliation on the part of the Oxford professors, England's leading men of science, who have addressed a conciliatory message to the doctors and men of science in Germany and Austria. The message, which is a notable document, reads:

"As there are many among you who share entirely our profound pain and deep regret at the rupture of our friendly relations caused by the war, and as you cannot doubt the sincere sentiment which gave birth and sustained this old friendship, you must, we hope, share our faith in its early revival.

"Therefore, we, the undersigned, doctors, college heads, professors and other important members of the University of Oxford, appeal to you personally to aid in allaying the bitterness and animosity which, inspired by patriotic emotions, swayed us during the war. In a field where our work is unique, our interests mutual, our rivalry and ambitions activated only by generosity, we can surely find a way to conciliation. The fraternity of science opens a path which can—and which should, if our spiritual ideals are potent at all—lead to a broader sympathy and a better understanding between our kindred nations.

"While political dissension menaces with destruction the honorable comity of the great States of Europe, we appeal to you to lend your aid in the revival of the friendly union which civilization demands."

It is this document which has led to the charge that British scientists have "humiliated" themselves before their German and Austrian colleagues. American physicians and scientists will find nothing in this document to sustain such a charge. The bitterness bred by the war cannot last forever. There must come a time when conciliation takes place, and it is just and natural that science and the arts, which are international

and above geographical boundaries, should take the first step toward such a conciliation. And it is even more just that the initiative should come from the victor, as a magnanimous and forgiving gesture. The discord among the scientists of the world was one of the severe prices of the war which is rarely computed. The cost to humanity was great. It would be lamentable if they should continue to pay the heavy price of a continued misunderstanding among the men whose lives are unselfishly consecrated to the advancement of the race. The Oxford men of science are to be commended for their generosity and their breadth of view. And they are to be specially commended in view of recent development in German scientific circles.

The War Record of German Science.—

Whatever degree of unrepentance may be found still to exist in the general public in Germany, the men of science, the doctors, the leaders of thought are giving ample evidence of casting aside the hatred and narrowness of vision that inspired many of their acts during the four years of hostilities. The record of German science during the war is not, unfortunately, a clean one. But no one realizes this as well as the conscientious men of science in Germany. And their repentance is not one merely of words but of acts. The leading doctors of Berlin offer a notable instance of this. Not long ago the vigorous protest of Dr. Calmette, of the Pasteur Institute of Lille, against the German atrocities in that city during the war was read before a group of Berlin doctors by Dr. Erik Schlesinger, the famous nerve specialist. Dr. Schlesinger recommended that action be taken, that an investigation of these charges be opened, and that the result be made known to the world. The Berlin doctors submitted the case to a competent committee, consisting of Dr. Schlesinger, Fraulein Walburga Geiger, of the Department of Labor, Max Hodann, of the League of Nations Society, and Dr. Elisabeth Rotten, of the Allied Prisoners' Relief Commission. This committee, after careful study of official documents issued by the German General Staff, found that Dr. Calmette's charges were in most instances entirely justified and they so reported to the doctors. It is to the everlasting credit of

these men that, instead of attempting to minimize the importance of the committee's findings and to shelter their compatriots, they offered the result of the investigation to the world in a book, entitled "Lille" and published in Berlin. The book is a bitter indictment of the Prussian mind, Prussian methods and Prussian cruelty. It contains the charges of Dr. Calmette, the findings of the committee, and documentary evidence of the brutality of the atrocities. The men of science of Germany could hardly offer a more emphatic and a more straightforward proof of their disapproval of German methods and their regrets. Having done this, their part in the process of reconciliation had been fulfilled. The Oxford scientists took the next step. And history will record its appreciation of both.

Vienna Resuming Medical Leadership.

—In the same spirit, American physicians will note with pleasure the hopeful tone of a report issued in Vienna by the American Red Cross, reviewing hospital conditions in that city at the present time and announcing that Vienna is gradually tho slowly resuming its former leadership in medical science. However faltering the regrets felt by the public at large at the deplorable state into which Austria had sunk, the loss of Vienna as the medical capital of Europe, the inspiration of medical men everywhere, was in the eyes of physicians of every nation a tragic blow to science.

The Red Cross report gives a graphic picture of the plight of Vienna's hospitals. Lacking all necessary supplies, stripped of medicines, linens, food and instruments, these institutions, once models which the capitals of the world imitated, were in a sorry state. Directed by famous doctors, whose leadership in their profession was recognized internationally, they had sunk practically to a state of uselessness at a time when the stricken population they served, if not the world, was keenly in need of them. When the Red Cross Commission first arrived, great doctors were found using waste paper in place of bandages, which were unprocurable. Bed-ridden patients were lying on mattresses bare of any linens. Famous surgeons were wearing cheap, cotton gloves instead of the universal rubber ones while they performed operations with instruments

which were often of the most primitive type.

It is to the credit of the Commission that it recognized in the medical crisis in Vienna the medical problem of the world. Bandages, instruments, linens and food were supplied to the hospitals of the city and other large centers in Austria. At the present time, as a consequence, all the hospitals of Vienna are once more on a working basis. Mortality at these hospitals, reaching alarming figures recently, has now been greatly reduced, and Vienna is slowly forging forward to the advanced position it occupied before the war.

Still Serving.—Travelers visiting the more remote areas of Europe, Serbia, Montenegro, Czecho-Slovakia, Eastern Poland, will often, in their wanderings in out-of-the-way places, come upon memorial tablets bearing unmistakably American names. The tablets commemorate the death of these Americans, men of all ranks, in the service of alien races. Examination will reveal the fact that their death occurred in most cases after the termination of the war, Nov. 11, 1918. And in not a few instances the word "physician" is written after their names.

These tablets are the modest tributes paid to the doctors of America who, after the need of their country had ceased, obeyed the call of humanity and in the service of the American Red Cross and other humane organizations ministered to the wants of the needy peoples of Europe. Some gave their lives in this service, many are still today hazarding their lives, yet of the work of these men, their courage, their sacrifices, the American public and even the American physician knows little. The picture on our front cover this month is of the American Red Cross Hospital at Skoplje, Servia. This hospital is one of the many institutions under the direction of American doctors, and of which we in this country rarely if ever hear. Largely this ignorance is the fault (if fault it may be considered) of the doctors who are still serving, for they have shunned publicity and couched their reports in such modest language as to conceal the magnitude of their service. It has been the good fortune of our Paris correspondent to come into possession of one of these reports, telling the story of the evacuation of Kiev during the advance of the

Bolsheviki last summer and telling it from the point of view of two Red Cross medical units who were involved in this retreat. The report was submitted to Paris headquarters by Major A. G. Plankers, one of the American physicians in charge of the units and tells dramatically and much too modestly the experiences of his colleagues and himself. Chiefly a military document, the report nevertheless reveals a phase of the service of American doctors in the stricken areas of Europe which will be of special interest to every physician at home. The article, "The Evacuation of Kiev," appears in this issue.

The Role of the Doctor in Educating the Public in Health Matters.—Every day it is becoming more apparent that the doctor is the most important factor in educating the people in regard to health. The *Rhode Island Medical Journal* (June) in discussing this question well says that the dictum of the late P. T. Barnum, "The public loves to be fooled," has had no greater application than in the treatment of those afflicted with disease. To succeed in fooling the well, ordinarily demands much cleverness and ingenuity, but the sick are all too ready to grasp at any illusion that may offer them comfort and hope and are incapable of critical judgment. It is a matter of common knowledge that fooling the sick is easy and is the profitable occupation of the quack, whose statements are even more persuasive if it be true that to a great extent he fools himself and half believes his own teachings. But in the ranks of the regular profession the gentle art of keeping the public misled or at least mystified has in the past been found expedient, and we must admit that varied phases of self-deception are represented among us, from the man who is *sure* of the beneficial action of his favorite prescription in the treatment of influenza, to him who can see a fountain of youth in a culture of lactic acid bacilli or make a parasite of a blood platelet.

At the present day, however, a great part of the public has developed a very healthy desire to be fooled no longer, but to know the facts as far as they can be known. The future of medicine lies in the education of the public in medical matters. Campaigns of publicity regarding tuberculosis and venereal disease are a part of this move-

ment which, when carried out to its logical conclusion, means destruction to charlatan-ism and quackery. But there is another side to be considered. When the doctor of today makes his family visits, he should see to it that he gives his patients as clear and concise a statement of the truth in regard to the nature of their ailments as is suited to what he thinks is their ability to understand. If he merely looks wise and prescribes treatment and vouchsafes little or no information to his patients, he is shirking more than half his duty. When the public realizes that the medical man is anxious to take his patient fully into his

situation he ascribes to the radical change such service implies from a former régime; the fact that it allows no personal choice of physicians; the fact that advice and treatment given gratuitously are not highly regarded; the opposition of certain local physicians who cater to that class of business; and the prejudice of certain workers who feel that their "rights" are being interfered with. To meet the situation the industrial surgeon needs in addition to his equipment in medicine and surgery the art of handling people—that is, he must be temperamentally fitted for the job.

Facts, not theories, are wanted, and in



American Red Cross photo.

PRESBYTERIAN HOSPITAL, San Juan, Porto Rico

One of the well-equipped institutions referred to in Dr. Reguero's article (see page 579).

confidence, to play fair, with all his cards face upward on the table, and when the main facts regarding the nature of disease and its prophylaxis and treatment become matters of common knowledge, the death knell of charlatanism, quackery and cults will have sounded.

The First Duty of the Industrial Physician.—The first duty of any doctor who becomes attached to an industrial establishment is to break down the mistrust of industrial surgeons, said Dr. F. M. Furlong, before the Fourth Industrial Safety Congress of New York State. This oppo-

all compensation cases thoro examination and complete records obviate misunderstandings. The work must be organized so as not to upset the shop in case of an emergency, and frequent investigations should be made of all conditions bearing on the health of employees, sanitation, fatigue, recreation and food. It has been conclusively proved that those plants which maintain an efficient industrial medical service have had a minimum amount of absenteeism, changes and losses by illness and injury. The advisability of medical service in industry is not a question of sentiment and not a question of humanity. It is a plain business proposition.



MEDICINE AS PRACTICED IN PORTO RICO.

BY

J. REGUERO, M. D.,

New York City.

The island of Porto Rico, so often the dream of the poet, because of the grandeur of its scenery, the mildness of its climate and the proverbial hospitality of its inhabitants, is fortunate in enjoying medical and surgical conditions which by reason of the character and skill of its physicians and surgeons, leave little to be desired.

Hippocrates' noble profession is practiced on the Island by graduates from the various universities of the world, physicians whose diplomas have been duly registered and approved by the Board of Medical Examiners.

The needy classes receive the best of medical attention, the Island being divided into first, second and third class municipalities, according to their respective populations. In the second and third class municipalities, the poor villagers receive medical assistance from one or two physicians, and those of the first class from as many as the number of inhabitants make necessary, which services are paid for from the public funds of the respective municipalities. These beneficent services are supplemented by several public hospitals, and here are treated patients suffering from internal diseases of

long duration, or those requiring surgical operations. Of the above hospitals there is one in each of the seven departments into which the Island is divided, namely, Bayaman. Ponce, Arecibo, Aguadilla, Mayaguez, Gauyama and Humacao, and which hospitals are adequately provided with all that is necessary in a modern establishment of this kind. Here also are admitted the rich and the well-to-do, who pay to the municipality the usual fees. There are also a great many smaller towns besides the above mentioned heads of departments, which are likewise provided with hospitals for the poor. Apart from these hospitals, there is to be found a great number of private hospitals, sanitariums, asylums, etc., all of which would fully satisfy the most rigorous critics.

The Presbyterian Hospital, the Porto Rico Sanatorium, the "Clinica Miramar" and the "Sanatorio Espanol", in San Juan, capital of the Island, are fine examples of the above and many others of the same character will be found in several other large cities.

Insular Sanitation.—The Insular Board of Health in Porto Rico is commissioned to attend to the administration of the health laws of the Island. To this are subsidiary the chemical and bacteriological laboratories which carry on a constant and highly important work of analysis of all biologic

products, foodstuffs and potable waters. Annexed to the above we find the Institute of Tropical Medicine and Hygiene, the name of which indicates the extent of its investigations and the importance which should be attributed to its activities, especially along the line of diagnostic research. It is from this Board that distribution of the various vaccines is made and it also supervises the Insular Insane Asylum and the Hospital for Lepers situated on an islet at the entrance of San Juan harbor. These latter institutions at the present time necessitate several reforms, to harmonize with the latest advances which are to be found in the modern asylums of this kind. To this end, an active propaganda has been carried out during the past few months, and undoubtedly the result will be most satisfactory.

Both the northern and southern parts of the Island have a medical inspector of health, who supervises the work of the medical officers of health in each town of their respective districts, it being also the duty of these inspectors to make reports relating to the sanitary conditions of the section under their jurisdiction.

The Common Diseases.—These are malaria, anemia and tuberculosis.

Certain zones of the Island are most cruelly afflicted by the plague of malaria and there are sections of the country with several small communities, every one of whose 2,000 inhabitants are more or less constant sufferers from this malady. Notwithstanding the prevalence of this affliction it is surprising to note the relative scarcity of pernicious types; and even where malaria is most common it rarely presents other than the algid forms from among the numerous varieties that it is apt to adopt.

The Insular Board of Health provides

for the sanitary care and drainage of swamps, making appropriations for the purchase and distribution of petroleum used in the extermination of the *anopheles'* ova. Several health statutes approved by the municipalities prohibit the pouring of water in the thoroughfares and back yards of dwellings in order to avoid their stagnation, and any person violating these statutes is subject to a heavy fine or imprisonment.

Anemia in Porto Rico, that is to say, the anemia caused by the *ankylostoma*, is undoubtedly the most widely existing malady on the Island, especially among the native inhabitants on the farms.

In mentioning the word "anemia", as related to the island of Porto Rico, we must not fail to pay the greatest honor to Dr. Bayley K. Ashford, a prominent physician of the American Army, who has devoted a great many years of effort to the establishment in the Island of an effective routine treatment of uncinariasis, and in which work, aided by the eminent native physician, Dr. Gutierrez Igaravidez, he has attained a success which has been really surprising.

In order to achieve the results they have in the treatment of anemia, innumerable dispensaries have been established in all parts of the Island, whither have come thousands of pale-faced rustics to have their excreta examined and to receive the requisite dose of thymol and saline laxative to overcome their condition. Out of every hundred patients who have submitted to examination, all have proved to be positive cases of uncinariasis, and in some cases the parasites have been so abundant that the patients could hardly endure the effects of the medication, such was the degree of attenuation and organic weakness in which they found themselves.

Fortunately, the instructive pamphlets distributed among the country people, teaching prophylaxis of the malady, have had their beneficial effect on them and on the cases recurring in patients formerly examined by Dr. Ashford and Dr. Gutierrez.

The Porto Rican rustic of the very poor classes does not, as a rule, wear any shoes, since he cannot afford them owing to the meagreness of his wages and the extremely high cost of living. He is, therefore, compelled to go barefooted and this unfortunate circumstance is the main cause for the depressed and weakened state of his body, which, considering his daily physical exercise in the open air, should display enviable vitality. The cuts and abrasions of his feet offer an easy access to the parasites that very soon destroy the red corpuscles of his blood.

In this respect, the endeavors of the Porto Rican legislators in offering bills for the amelioration of the sad condition to which the lives of these pitiable peasants are condemned, have been entirely futile owing to the great difficulties presented by the lack of available funds in the public treasury and the necessity of providing for more pressing matters. Thus this disease exists in the rural districts of this fertile and wonderful island to an extent that has almost caused the extermination of an industrious and law-abiding race that well deserves to endure among the peoples of the world.

Tuberculosis in Porto Rico is at the present time such a common disease that it might be considered as "one of the family." It predominates in its pulmonary form, the other varieties being rather infrequent. Next to the pulmonary form, however, come the laryngeal and intestinal.

The people as a whole, as is probably the case in all other countries, do not realize the great contagiousness of this exterminating disease, and ignore whatever advice the doctors give, invariably believing it to be only unwarranted exaggeration. This naturally leads to a large number of victims as a result of the carelessness of the people to use proper care or to protect themselves against contagion.

On the other hand, the great deficiency in their foods and the still greater lack of proper housing conditions, especially in respect to light and air, have a predominating place among the tendencies causing the accelerated march of the malady.

Great efforts have been used to ameliorate the pitiable situation of the country people and change the conditions surrounding them, since they make up the great majority of the victims.

Likewise the local physicians have faithfully employed all positive efforts in trying to arrest the spread of the malady, and also in the treatment of the diseased.

Charity from every source, private and public, has reached to the very heart of the Island, supplying financial and other assistance, and in this way it has been possible to maintain and operate the "Sanatoria Anti-tuberculoso" so successfully that lately the Board of Health has decided to take a hand in the work by establishing a state sanitarium. A magnificent and ample spot was acquired in the neighborhood of San Juan, located on a very beautiful plain facing the ocean, where one can breathe only the purest air. Many tents and wooden pavilions have been erected and provided with all the comforts and conveniences possible in an establishment of this kind. Already it has abundantly proven its value to those who have contributed, either with

their money, manual labor, scientific work, or otherwise, and made possible the erection of an establishment which gives glory to its sponsors and to the country as a whole.

During the month of December, 1919, when the sanitarium was inaugurated, it was visited by Drs. Mitchell and Grant, the latter being a member of the Rockefeller Institute. These experienced and capable observers could see the gigantic efforts which had to be expended in order to complete a work of such magnitude, struggling against all sorts of obstacles, among which the high cost of living was not the least to be overcome.

The Island has a medical academy and a medical association, each made up of the most prominent medical and surgical men who not only follow the latest developments in both branches of medicine, but strive to enrich their own knowledge by keeping in touch with the results attained by others as well as thru their own personal experiences.

First-class surgical operations are constantly being performed in Porto Rico with the best results, not only because of the ability of its surgeons and the technical skill with which they do their work, but because it also possesses a delightful climate which tends to prevent infections. As a rule the postoperative state of a patient is apyretic and recovery follows without interruption or delay.

Treatment of Burns by the Paraffin Wax Method.—McMahon (*Southwestern Medicine*, Jan., 1920) writes that the best method of treating burns is by the paraffin wax method. It has the following advantages: 1, rapid healing; 2, reduction of pain to a minimum; 3, contracting scar tissue is minimized; 4, constitutional symptoms subside rapidly; 5, many patients recover who would die under other treatment.

OUR HERITAGE.

BY

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(Continued from October number.)

Aside from syphilis there is probably no hereditary endowment more pernicious than that of alcoholism. In point of fact, it may be questioned whether it be not the greater evil of the two. They are so closely associated from the etiologic angle that it is frequently hard to decide which is entitled to the credit of the chancre. It is certain that many an infection has been acquired not because the victim was tempted beyond his strength by libidinous desire, but because his judgment was clouded and his resolution weakened by alcohol. The allurements of the painted harlot might not seduce the sober man. His perspective would be correct and his sense of obligation keen and vigorous. He would remember the wife he left at home or the girl to whom he had plighted his troth. If uninfluenced by such considerations, he would recall perhaps the risks of random intercourse. At any rate he would be in the best possible attitude of defence whether he ultimately succumbed or not. The man under the influence of alcohol, however, has an artificial temperament. If he is drunk he is utterly reckless and will functionate like a beast. Every deterrent consideration will fade into nebulous incoherence. He will do that which his unguarded senses prompt him to do, let the consequences be what they may. But the man with "a little taken," who still correctly appraises his moral responsibility and the danger of

infection is, nevertheless, at a disadvantage in that his passion has been overstimulated and his will enfeebled. In proportion to the amount of alcohol imbibed, short of befuddling intoxication, will these two factors pull him on to his undoing? This of course is a twice told tale. Everybody is aware of it, even the advocate of "moderate drinking." Nobody doubts in the bottom of his secret soul that mankind would be better morally without alcoholic beverages. Why then is it so difficult to bring so many to an open avowal of this opinion? Because forsooth, the craving for the stimulant is in our blood and will not be denied. This has been bequeathed to us from the dim and misty past. It is related that Noah celebrated his deliverance from the flood by getting drunk. Natives in primeval forests have brewed intoxicants from masticated nuts expectorated into a common receptacle. With an unbroken lineage of unparalleled antiquity it is small wonder that alcohol is a powerful prepossession of the human will. It is an element of our heritage rich in its immediate calamities; rich in its instigated concomitants; rich in protoplasmic debasements of the gravest character. Of those who drink we may predicate parenchymatous degenerations of various organs such as heart, liver and kidneys; acute mental disturbances resulting in injudicious conduct more or less disastrous; chronic mental disturbances resulting in gradual decay of will, ambition and self-esteem. The final stage of this deterioration is that of the filthy outcast whom we inelegantly denominate a "bum." Of those who drink we may predict that their progeny will be drinkers. They will achieve self-consciousness with a lowered resistance to temptation. Their heritage of resolution

will be ruefully weak. The nerves of their parents stimulated to the highest pitch of unhealthy tension for years on end, will be reproduced in them with the same inordinate craving. It is not demonstrable that unhealthy kidneys or livers may be inherited. But it is reasonable to assume that if the parent has played such havoc with his own functioning tissues he will bequeath a protoplasm incapable of constructing or maintaining durable parenchyma. If shortened existence were the only evil of an alcoholic parentage, it might be borne with equanimity by the rest of the community; but unfortunately it is crowded with those episodes which call for the police and the charity hospital. Violence, crime, lubricity and lues; beggary, bawdry, and bastardy; are some of the blessings which mankind may ascribe in great measure to alcoholism. There are besides some kindred vices to which it indirectly contributes. The morphine habitué is very often the product of the saloon. He has probably been inducted into the secret vice either by the weakened will of the alcoholic or by loss of judgment incident to intoxication. Cocainism and alcoholism run in double harness. Cocaine is used to heighten the stimulation of whiskey and whiskey is used to counteract the black reaction of cocaine. Both addictions also may be the consequence not of indulgence in alcohol by their victims but of the craving for excitement inherited from self-indulgent progenitors. It is hardly probable that the offspring of nervous, overstimulated parents can be gifted with a calm, judicious poise towards the allurements of vice. On the principle laid down by the alienist that delusions put the insane in more tolerable relation with their environment, it may be maintained that the satisfaction of this crav-

ing by the drug addict has the same result. On the same principle it may also be maintained that the original yielding to the temptation for an artificial euphoria is due to the discontent of the subject with his environment and is an attempt to effect a more satisfactory adjustment. This discontent may be acquired thru misfortune or inheritance. Loss of money, disappointment in love, defeated ambition may, any of them, bring on the nervous undoing that calls for "respite and nepenthe." Possession of a nervous system inadequate from the beginning to withstand the inevitable trials of life predisposes to the same treacherous indulgence. It is altogether likely that the surrender to this deceptive escape from responsibility is due primarily to the defective make-up of the individual. Those of sterner stuff withstand the seduction of beckoning narcosis or fight for rehabilitation. It may be postulated as a self-evident proposition that the failures in life—the moral failures rather than the material ones—are the foredoomed consequences of the protoplasmic "scrap" passed on by their ancestors. They are hereditary incapables because those ancestors were improvident stewards of the gifts of nature.

We have mentioned some consequences of alcoholism which implicate womankind particularly in the general indictment. We have used the vigorous old terms "bawdry" and "bastardy." While suggesting the concurrence of male incontinence they have to do peculiarly with the female element in lubricity. The woman is the bawd and brings forth the bastard and endures the ignominy of the offence. The man is likely to escape with fleeting disapproval. She loses caste and may not marry within the range of her reputation. He retains caste and may marry where he pleases if he is

financially or socially a "good catch." So runs the world away! It is within the bounds of moderation to assert that most of the women who are seduced and later embark on the trade of prostitute owe their downfall to the taking of alcohol. It cannot be denied that some girls fall from sheer sensuality; others from persistent solicitation; others from misguided affection and reliance on promises of marriage; but most of these victims with brains unclouded with alcohol and nerves at normal tension would remember the calamity of illegitimate pregnancy and resist the seduction no matter how fervently or cunningly urged. It is a vulgar truism among the gentry who are seeking such prey that the "girl who can be got to drink can be got to bed." Fortunately pulling with great tenacity, is the hereditary dread in every woman of unfathered motherhood. This has been operating thru ages of civilization. So deeply is it impressed upon her mind that she scents instinctively the insidious approach of danger and will resist the assault, often at the sacrifice of life. She calls it virtue—this unyielding defence of her person. And so it is. But its origin lies in the world-old dread of the disgrace attaching to the loss of "honor." It is her most precious and profitable heritage. Unfortunately coupled with it at times is the heritage of weakened will, disordered nerves and hankering for excitement. This may be insufficient to overcome the deep-rooted dread of disgrace, or it may be sufficient to nullify it and give odds to the hot pursuer. Drink for such a girl is absolutely fatal. She will fall inevitably.

There are some women, married (and safe beyond the ordinary pitfalls besetting the course of the single) who have another heritage of a perilous tendency. Beauty

released from the strait constraint of innocent reserve, is sometimes more flaringly alluring and more open to temptation than the shy attractiveness of maidenhood. Vanity fed on flattery swells to such gross proportions that it displaces prudence and fidelity. The desire for attractive raiment to set off the charms of nature is a tremendous addition to the forces at work. If the desire can be satisfied in a legitimate way all may go well. If poverty goads vanity to seek appropriate adornment, the primrose path of dalliance lies smilingly before. A little rosy wine will smother annoying scruples, and the consciousness that a pregnancy may be ascribed to a lawful account renders all safe and taut. The heritage of beauty is truly hard to bear in honesty and honor. The desire for admiration rooted in the female as the means of attracting a worthwhile protector or husband is frequently the cause of a mercenary exploitation of her physical attractions. The end is meretricious in view of the manner of its attainment. Her heredity is urging her to her ruin, because it is unbalanced by motives of probity and truth. With her beauty she has received defective moral qualities sowed in some ancestral garden of pleasure. Shakespeare says, "We are such stuff as dreams are made of." With all his wonderful penetration he missed cue there. "We are such stuff as our forbears were made of" is the literal fact. It is difficult to establish a connection between heredity and diseases of the skin. If it existed it ought to be the easiest thing in the world to show; for the presence of a skin disease is so disturbing either because of its appearance or its sensations that it becomes irrevocably fixed in the mind of the subject. Its reappearance in the next generation would assuredly excite comment

and comparison. Its constancy as a family trait would certainly be a matter of record. Candor compels the admission that hereditary transmission is rarely encountered. Diseases like eczema and acne may indeed be noted in mother and child, but they are of such common occurrence that the association has no point. Psoriasis has been traced from parent to child, but not so often as to allay the suspicion of coincidence. Xeroderma pigmentosum has been called the family disease, and yet while several cases of this rarest of maladies may occur in the one family it does not show a hereditary tendency. This means that, whereas half a dozen cases may appear in one group, there is no actual succession from parent to child. Excepting what may be styled direct infection such as smallpox, measles, scarlet fever and syphilis, there is no evidence of the transmission of disease to the child in utero. With regard to cutaneous diseases, it is the same as with regard to general diseases. The predisposition is inherited with imperial protoplasm. A certain style of mouth or nose being characteristic of certain people, it is fair to infer that a certain style of skin goes with it. This skin of higher or lower quality according to prenatal conditions, will react to external irritations in a variety of ways. Some skins there are which may be almost continuously bathed in chemical desiccants without destroying their suppleness. Other skins there are to which the weakest and briefest application of this kind will do material damage. Some endure the bitterest cold without appreciable injury. Others dry and fissure on very slight exposure. Contact with dyes will excite a dermatitis on one hand, on another, will produce no change whatever. One woman may dye her hair with impunity; another

will produce a most disfiguring inflammation not only of the face, but of the hands and even of the covered areas. Nothing in pathology reveals such idiosyncracies as diseases of the skin. Idiosyncracies mean predispositions. These are inherited weaknesses. While, therefore, we cannot predicate the actual inheritance of any dermatosis except the acute exanthemata and lues, we certainly do inherit such differences of cutaneous susceptibility as to establish beyond all cavil the operation of congenital causes. The fair complexion of the red-haired Celt will freckle copiously, whereas the darker hued Italian will successfully resist the solar radiation. In the predisposed, that is to say, in the hereditarily predetermined, the sun will produce freckling that leads inevitably to epithelioma and death. And it does this in the young, who should have no tendency to such malignant degeneration. Xeroderma pigmentosum is a premature aging of an infant skin which must have begun in utero. Epithelioma developing in the middle aged or senile upon a seborrheic patch, for example, gives no ground for a hereditary association. Histories do not bear out such an etiology, and yet there is something which focuses malignancy on a particular individual and leaves a thousand others of similar age and condition absolutely unaffected. No matter how we may develop this argument we are driven to the same conclusion. If we attribute the incidence of malignancy to the intervention of a seborrheic wart or an injury, we have simply added a step to the process without in the least altering the etiology. For some peculiar fault of constitution must permit the occurrence of the wart or the degenerating effect of the trauma. All elderly people do not react malignantly to trauma. All elderly people

do not develop warts on seborrheic patches. Something antecedent determines this papillary hypertrophy. Warts in the period of physical retrogression may be regarded as "half-way houses on the road to malignancy." In popular parlance that individual "is on his way" to cancer, who having turned fifty has shown verrucous tendencies. There is a predisposition in his skin which has lain quiescent until age has reduced resistance. Having acquired that skin with its peculiarities, from the source of all his physical appurtenances, he must impute to his procreators all the evils that spontaneously arise in it.

Analogy, deduction and induction all bring conviction of the power of our heritage. It is indisputable in the domain of human experience. The evidences are so plain that even those who contend for the countervailing properties of propitious environment have only exceptional instances to offer. The big facts that stand out so clearly to our sense and our reason cannot be glozed by any sort of specious dialectics. One of the strongest arguments for the existence of Deity is the universal opinion of mankind. It has been postulated as a truism that that which has been believed by mankind under all conditions of existence and thru all ages must be a fundamental truth. There have been many different conceptions of Godhead according to the degree of enlightenment achieved by the people, but whether the sublimity of pure spirit or the imperfections of anthropomorphism were adored upon the altar, an altar there has always been and a *personality* to rule it. There have been sceptics always, but they are the rare birds whose numbers never grow portentous. I do not mean dissenters from a particular religious formula, they are many. I mean those who deny the

existence of any sort of God. We have seen that matter cannot evolve thought, nor can an impersonal entity evolve personality. Atheism denying the immaterial must deny thought. The atheist being at odds with the immense proportion of his fellowmen is proof of the universality of deism. The disparager of heredity being at odds with an immense proportion of his fellowmen proves the universality of the opposing opinion. But proving the influence of heredity is like proving that the sun shines. The fact is self-evident. Conceding this, are we to supinely yield to the evil that may have become part of our protoplasm on the conviction that it is inevitable and irresistible? If we are what we are because of what our forefathers were, must our offspring be the same? If heredity dominates environment in the determination of character and therefore of conduct, may we never hope to deflect or offset a current of detrimental impulses? Must the "brook run on forever"? This, too, is contrary to experience, for we have already noted that in many ways mankind is changing for the better. The inheritor of corrupt inclinations or poor vitality will probably run according to form. Effort to alter his moral or physical status will probably be inefficacious. But the mere striving for a better standard will give additional energy to his descendants who may eventually overcome the handicap. The father may fail, but the son or grandson may succeed. We have maintained that in the reciprocal pressure between heredity and environment, the former is certain to prevail. But that is not to say that in the dynamic interchanges between these tremendous influences some impression may not be made upon the more powerful. In a struggle for supremacy the contestant that succumbs may leave the

contestant that prevails in a very much weakened and chastened condition. Wrestlers have fallen to the mat together, the victor hardly able to rise again, and filled with great respect for the loser's ability. Pugilists have fought on until one, more exhausted than the other, sags to the floor leaving the champion battered into almost as helpless a condition. The crown of victory carries with it many a valuable lesson learned from the nearness of defeat. So the supremacy of heredity over environment carries with it the correlative influence of environment on heredity. While vicious tendencies will probably resist the counteracting effect of elevating surroundings, if these be strong enough they will probably react upon heredity to the advantage of succeeding generations. This holds good for the moral and spiritual side of man. In the domain of physics there is no question whatever of our ability to transmit a definite sort of legacy to our descendants. If we avoid irregular sexual intercourse we shall probably avoid lues and gonorrhea, two of the most important factors in the deterioration of the race. If we avoid alcohol we shall probably avoid irregular intercourse. If we are prudent in eating and drinking we shall probably avoid those gouty and rheumatic (apologies to the pyorrhea phobes) disturbances which have such hurtful consequences. The putting of so many young men under army discipline proved highly beneficial to a great number who constitutionally sound were yet languishing in occupation hostile to normal development. This would seem to make the case for environment. But here environment and heredity were working harmoniously. Compelling a tuberculous subject to undergo the same strenuous experience would quickly demonstrate the falsity

of the contention. The exercise and discipline coordinating with healthful inheritance achieved remarkable results. The same exercise and discipline contending with unhealthful inheritance would achieve defeat if not disaster.

If every man and every woman would take heed of the fact of the transmission of all their qualities, good and bad, to their descendants and of the corresponding duty to so order their lives as to magnify the good and minimize the bad, the progress of humanity towards a higher plane of development would be steady and fast. Recognizing the obvious truth that cooperation is more helpful than resistance, conditions should be sought (where freedom of choice is possible), supporting the virtuous, useful and healthful tendencies of the race. Per contra, conditions should be avoided which defeat them. Given an even endowment of natural characteristics, leaving the subject poised between equally insistent inclinations, the accident of situation may determine the decisive deviation. Vicious characters will yield readily to vicious environment. Virtuous characters will steadfastly withstand it. Colorless characters, swayed by no purposeful qualities, will stumble in the direction of least resistance. Thus large masses of people long inured to demoralizing social conditions will go on procreating offspring incapable of higher aspirations. Environment here favoring heredity tends to perpetuate the infelicitous trend. But occasionally a personality has appeared under those identical conditions, which rising superior to the debasing conventions of its class, has demonstrated the dominance of heredity over environment in a clean-cut contest for the decision. Atavism or the fortunate infusion of an extraneous element has brought forth a being masterfully

pursuing the impulses of a stronger nature and contemptuously thrusting aside the interference of accidental impediments. History glitters with conspicuous illustrations. The great war just ended has revived the venerated memory of Joan of Arc. She will serve to point our moral and adorn our tale. Military genius was born in her and flourished despite the drawbacks of illiteracy and bucolic simplicity. As far as environment was operative in determining her career it told flatly against its marvelous development. Men will say that this is not a case in point as Joan was inspired for the work before her. This is coyly begging the question. We as medical men seeking to explain heredity are not concerned with problems of inspiration. Shifting the ground in that fashion does not evade the issue. Call it what you will, paranoia, heredity or inspiration, it was a quality of soul in the girl which rose triumphant over her surroundings. It demonstrated that the thing within is master of the things without! The great war has also brought confirmation of this from other and less delectable sources! We have referred to the Germans in terms of the severest censure. Leaders in the march of science and civilization (by common repute), they showed under the stress of costly opposition, a ferocity and mercilessness comparable only to that of the untutored savage! Heredity came thru as soon as the surface polish was rubbed off! Environment was not accountable for their descent to depths of infamy unparalleled in modern history! For their enemies were subjected to the same environment and acted like men instead of brutes!

It has been sagely said that "evil communications corrupt good manners." This aphorism has been adduced to make the

case for environment. If this means any thing it means that this result is invariably attained; if evil communications sometimes fail it shows that environment is not triumphant over heredity, but only over malleable, non-resistant endowments. Numerous common adaptables do not prove the weakness of heredity, but the uncommon recalcitrants prove its strength. A child brought up amid evil surroundings is very liable to acquire vicious qualities. In fact, it is the rule. Its succulent susceptibility absorbs the lessons of experience. Good or bad they sink in and profoundly affect the development of character. But in the case of a child originally alien to such influences and subjected to them by the whirligig of unpropitious fortune, who can predict that in the fulness of time the hereditary tendencies slowly emerging with the evolution of protoplasm shall not rise superior to the accident of situation? The phenomenon has occurred over and over again. Even young men to the manner born have often after a most unpromising childhood developed a distaste for the seamy side of life and dragged themselves (probably under the impulse of some collateral inheritance) out of the depths and up to the level of noteworthy endeavor. In the muck of vice-encumbered slums has bloomed the lily of unwavering virtue, not very often, perhaps, but often enough to show that the light within was more powerful than the lures without.

Let us not overlook the significant circumstance that man makes much of his own environment. Indeed, in a broad sense, this is true of all his surroundings save those of primeval nature. Mountain, forest, plain and ocean constitute his original fields of activity. With these he must wrestle in order to extort the sustenance necessary

to maintain life and procreate his kind. But as soon as his efforts have cleared away the forest and made the crops to grow and flecked the sea with boats he has created a new environment ever changing and diversified, culminating in the complex artificial relations of latter day civilization. These factors of his own devising exercise a greater influence in shaping his career than the original obstacles of untutored nature. And yet strictly they are not environmental, but hereditary conditions since they are the bequeathed accomplishments of ancestral activities. For example, we are much concerned about the influence of the saloon upon the morals of the community; and yet the saloon is not the cause but the indication of moral inadequacy. Mankind has made the saloon; nature has never produced one. We are aware of its evil influence upon characters lacking effective resistance. But this is not the triumph of environment over heredity, but rather the succumbing of heredity to its own vicious impulses crystallized in the institution known as the saloon. When we speak, therefore, of the effect of environment upon the formation of character and the determination of health let us remember that we are actually speaking of the stored-up tendencies handed down to us by vicious, bibulous or virtuous forbears in the shape of customs, conventions and other social formulas. Capital is stored-up labor. The saloon, the brothel, the jail, the disease-infested city are stored-up manifestations of ancestral depravity. When the cabaret lures the girl, her own lineage is beckoning to her from its fevered precincts. Dissipated progenitors have made the cabaret possible and herself susceptible. Heredity without is calling to heredity within and the result is readily prognosticable.

It may be objected that the dermatologist has presumed far in attempting an exegesis such as the foregoing. It would at first sight appear to be utterly out of his legitimate sphere of activity. In a broad general way, however, it might be rejoined that as all roads lead to Rome, so also do all human vicissitudes lead to cutaneous reactions. And thus he gets into the record. The skin is in a sense the barometer of the body. On it are to be read the rise and fall of vital pressure and in addition many things not recorded on its artificial analogue. Shock, terror, elation, sorrow, chill, fever, shame and anger; lemon-tinted septicemia, purple-tinted cyanosis, greeny-yellowish chlorosis; puffy, pasty myxedema; dusky reddish erysipelas; brilliant-flaming scarlet fever; bronzing from the suprarenals; pallor from acute nephritis, haggard grey of chronic cases; variola and rubeola, varicella and rubella; all these manifestations taken at random indicate the extreme importance of the skin as an index to general bodily conditions. Others will occur on reflection. It has been said that he who can read the skin aright has an open book to the interior man. If this is not sufficient to justify the dermatologist in delving into the contrarities of heredity and environment, the one tragic fact of heredo-lues, gives him all the warrant needed. He is the first to diagnose lues as a rule. He must be familiar with all its usual and unusual symptoms. He must be expert in detecting both the acquired and inherited forms. His familiarity with the subject gives him the right to discuss it from any standpoint. Heredity thus comes fairly within his province. Heredity in relation to lues opens up the broad field of heredity in general. And as lues has played such an important part in the deterioration of the race and as it is

associated all along its destructive course with an able aid and abettor in alcoholism, it is seen that the dermatologist far from being a presumptive intruder glides quite naturally and gracefully into the discussion of Our Heritage!

323 West 14th Street.

THE IMPORTANCE OF EXTENDING KNOWLEDGE CONCERNING CHILD HYGIENE.¹

BY

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Let us "right about face" and confront the facts. The entire country has been thoroly aroused to the importance of maternity and child welfare work. Communities, rural as well as urban, are now sensitized to the necessity for more adequate protection of their mothers and children. Women's Clubs everywhere, and the recently organized League of Women Voters, have expressed in no uncertain terms their determination to secure for the women and children of this country a "square deal"—and this includes health protection. The popular imagination has been stirred, as never before, so that thruout the length and breadth of the land determined efforts are being made to carry on some form of endeavor for the health of children. In thirty states, Divisions or Bureaus of Child Hygiene have been erected. Some, it is true, have been poorly conceived and inadequately

¹ Read at the annual meeting of the American Medical Editors' Association held in New Orleans, La., April 24, 1920.

financed, but they, nevertheless, reflect the desire of the citizens to provide some state machinery for child welfare. Numerous voluntary and private organizations, either independently or in cooperation with local health authorities, are ministering to the health needs of mothers and children. Four Government Departments in Washington have been working independently—sometimes at cross purposes—on some phase of child hygiene. Each Department is now urging that theirs is the logical one to administer a National Division or Bureau of Child Hygiene. The solution for this is a National Department of Health with a Bureau of Child Hygiene. Eighty private or semi-private organizations, purporting to be national in scope, have announced in their programs that they are touching "child welfare" at some point. The very term "child welfare" has become a fetish which organizations, numerous and diverse, are invoking to command public sympathy and support.

Where are the patient—but no longer unsuspecting—people, whom we delight to call the public, receiving their inspiration and information for the activities of child hygiene? Propaganda, good, bad and pernicious, has been sent out from practically all of the so-called "national organizations." Newspapers and magazines have sensed the popular demand and supplied a miscellaneous assortment of articles bearing on child welfare. Some of these magazines have performed a real service by presenting in palatable form child hygiene lessons which the people will read. It is really surprising how many articles relating to the welfare of children have appeared in our popular magazines during the past year. Some of the magazines maintain special departments to handle maternity and child welfare material. Advertisements themselves reflect

the tendency of the times. In several recent popular household magazines almost one-third of the advertisements had some picture of a child or allusion to childhood. From the covers of half a hundred magazines displayed upon our bookstalls each month one might draw the hasty conclusion that Americans admired beautiful women and healthy children more than all else.

Our Government Departments have put out a considerable amount of valuable material on child welfare, but this at best reached only a fraction of the people who should be reached. Up to within recent years the Government publications were so cold and stereotyped that they made but little popular appeal. From the technical nature of the medical magazines it was not even suspected that they could be of service in preaching child hygiene to the masses. At the present time the people are still largely obtaining their information concerning child hygiene from popular sources and much of it is neither scientific nor permanently useful. What is the medical profession doing to counteract this tendency?

It is true that an ever-increasing number of medical men are beginning to appreciate the importance of socio-medical work for children. In practically all the large cities are groups of socially-minded pediatricists who are giving time to the development of child welfare centers. In their personal contacts with the mothers much valuable information is imparted which should be followed up by the public health nurses. For some time the pediatricist in his private practice has been instructing his patients in the fundamentals of child hygiene. It has now come to be recognized that every mother should have the opportunity of learning how to keep her baby well. Even in this era of preventive medicine the aver-

age doctor is too prone to regard the sick baby as his legitimate ward and to overlook the weightier matter of *prevention* of infant illness. Why is it that public health nurses, social workers, dietitians, psychoanalysts, health crusaders, health fairies and health clowns have secured such a wide and attentive hearing in imparting lessons of child health, while physicians have remained content with private interviews in their offices and hurried instructions at child welfare centers? It is an untenable position for the medical profession to take that important instruction, even in simple matters of child hygiene, should be left entirely to those outside the profession.

Training in social pediatrics should begin in the medical course, or better still, in the premedical course. Every medical student should be brought into direct contact with infant welfare work, and held responsible for careful instructions to the mothers as to how to keep their babies well. The students should not only be able to receive suitable training in this work from their instructors, but also to find in the medical magazines discussions of the best methods and plans for the carrying out of child welfare activities. The medical magazines are in an excellent position to weigh the importance of socio-medical work for children, and to present in their columns various phases of child welfare from the health angle. Medical magazines would do well to keep in touch with the actual work being done in communities thruout the country where practical methods are being tried out. It would not be long until the editors of popular magazines were reviewing carefully the columns in medical magazines devoted to child hygiene.

Before passing judgment upon the diverse activities for child welfare, which of course

must include child hygiene, it is well to consider what a full-rounded program for child hygiene includes. Child welfare, as we all know, goes arm in arm with maternity welfare. Public health forms the background to both. Any program for child hygiene must fit in with general public health measures extending to prenatal care, proper obstetrical care, infant hygiene, pre-school age, school hygiene, the adolescent and the health of the youth in industry. Any phase of the health problems of these age groups might be studied with profit. Medical magazines could render a distinct service not only to the profession, but to the intelligent public as well, if various phases of the child hygiene program were presented from time to time. Abstracts from articles in other magazines would be helpful. Medical journals in America have given far less space to considerations of child hygiene problems than those in Europe. England has two periodicals which deal exclusively with maternity and child welfare, and France, Italy and Germany have at least one.

Why should we as a profession pass over to the newspapers and magazines the function of supplying to the public, and even a certain number of our profession, the information concerning child hygiene which is based upon scientific principles and should be enunciated in a form suited to make it permanent and useful? Surely the subject is one of sufficient importance to command our best attention.

To Induce Urination.—The hot water bag laid over the suprapubic region will facilitate urination in patients, especially women recently operated upon, and may obviate catheterization.—*Med. Sum.*

THE ECONOMICS OF HEALTH.

BY

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New York City.

(Continued from September Issue.)

The United States Commissioner of Labor Statistics, Royal Meeker, discussing the Relation of the Cost of Living to the Public Health—A Standard Minimum of Health Budget, *Monthly Labor Review*, January, 1919, frankly admits that the average workman's family spends all it gets and he wisely notes that the amount given over to medical and surgical treatment provides no index of the adequacy of treatment. He noted that during 1916 a family of five, including three children under 15, was unable to make ends meet with an income of less than \$1,150 per year. "A minimum of comfort budget" demanded \$1,200 per year. Inasmuch as necessities have increased 50 per cent. since 1916, he states that the identical standard of decency cannot be purchased for less than \$1,800. One might well ask whether the increased earning capacities were realized in incomes. The National Industrial Board, in its *Research Report 14*, February, 1919, calls attention to the fact that the cost of living for wage earners in representative American cities had advanced 65 to 70 per cent. and was most marked for food and clothing. This partially explains why it was found that the average expenditure in the New York shipbuilding district was \$1,348.64 per year, and in Seattle \$1,569.10 per year. The cost of living has risen, and while wages have also ascended in the scale, the chances for great improvements in the standards have not progressed at an equal pace.

In a memorial on Occupational Diseases, published in the *American Labor Legisla-*

tion Review, January, 1911, the statement appears that at the rate of a dollar a day for disability, the annual expense for medical care would be \$284,750,000. The report of the Committee on Industrial Relations, 1911, allowing an average rate of six dollars per person for the cost of treatment established a figure of \$180,000,000. The 1915 report of the Boston Dispensary presents an analysis of the economic condition of 75,000 patients. Thirty-seven per cent. were living on an annual income of \$600 or less; 49 per cent. on \$700 or less; 70 per cent. on \$800 or less, and 83 per cent. on \$1,000 or less. If the incomes of the chief wage earners only were considered, a bare 3.5 per cent. of the families had an income of more than \$1,000. These figures are in substantial harmony with the facts as presented by the Bankers' Trust Company, wherein 89 per cent. of the families of the United States were said to have an income of \$1,600 or less, and it is easily understood why the dispensary population is as large as it is, and how normal it is that 83 per cent. of the dispensary patrons should be from a group of the community, in Boston at least, with an income of less than \$1,000 per year.

Let us consider amounts that are available for medical care for a family of five on an income between \$700 and \$800. Here, distribution of the family budget, as quoted in *Public Health Bulletin Number 76*, would be as follows:

Item	Amount	Per cent.
Food	\$360	47
Rent	126	17
Clothing	123	16
Fuel and light	41	5
Health	17	2
Sundries	98	13

Thus two per cent. of the family budget is available for health supervision. On a

high income two per cent. might suffice, but on the basis of two per cent. in the lower income groups for families of five there is a financial shortage which forces families into neglect of health or upon public or private relief when illness assails them. According to the United States Department of Labor's study of the expenditures of 5,000 workingmen's families for illness and death, there was an average of \$27 per year per family. On the basis of 20,000,000 families in the United States, this would amount to \$540,000,000. This would be a conservative estimate of the cost of illness and care for the United States. One might add to this the capitalized earning power of the workers dying from preventable accidents and diseases, \$1,000,000,000; lost from idleness due to serious diseases, \$500,000,000, and the cost of institutional and private care of another \$500,000,000, or a total of \$2,000,000,000. This would make a direct or indirect loss of \$100 per year per family, a striking contrast between the small two per cent. or \$17 set apart on the basis of an income of \$700 to \$800 a year.

Mrs. More, in her excellent book on "Wage Earners' Budgets," shows the percentile distribution of expenditures actually made on an average income of \$836.25 to be: for food, 43.4 per cent.; for rent, 19.4 per cent.; for clothing, 10.6 per cent.; for light and fuel, 5.1 per cent.; for sundries, 17.6 per cent. When the sundries are resolved into their component parts the distribution of the family income becomes more illuminating. Recreation: 1.6 per cent.; union, .2 per cent.; gifts or loans, 7 per cent.; drink, 2.5 per cent.; church, .4 per cent.; books and papers, .6 per cent.; furniture, 1.6 per cent.; carfares, .8 per cent.; spending money, 3.3 per cent.; educa-

tion, .6 per cent.; domestic services, .3 per cent.; funerals, 1.2 per cent.; miscellaneous, 1.8 per cent.; *medical attendance, 2 per cent.*; 169 of the 200 families had expenditures for medical attendance, and the average amount expended by those families requiring it was \$20.12, while the average for all families was \$17 per annum. This suggests numerous problems in connection with hospital and dispensary organization, social insurance and various other practical economic problems involving social welfare in which the medical profession is, or should be, vitally interested.

The principal sources of relief from distressing incidents due to accidents and diseases, outside of public and private charities and benefits, are found in fraternal orders and lodges, sick benefit societies, wage benefits, and cooperative workmen's and employers' organizations. On January 1, 1915, there were 179 fraternal organizations with 7,700,000 "benefit members." During 1914 benefits because of death, sickness and old age were given to the amount of \$9,700,000. Thirty national organizations (820,000 members) paid for benefits due to sickness in 1914, \$1,100,000, about one per cent. of the whole fraternal insurance business for sickness and accident claims. About 10 per cent. of wage earners are members of labor unions, but far from all have sick benefit funds. During 1914 and 1915, 29 international unions in the American Federation of Labor paid out \$971,271 in sick benefits, but these internationals comprise less than one-quarter of the federation members. Authentic statistics of recent date are not available for the country as a whole, but inquiry into local conditions will provide considerable information that may be utilized in proving the economic benefits of reducing morbidity and mortality rates.

The financial argument is usually effective in appealing not merely to the organizations which are taxed for benefits, but also to the general taxpayers. Nothing has stimulated work in accident prevention to greater activity than legislation establishing workmen's compensation or employers' liability insurance.

Bearing in mind the costs of sickness and the relation of income to health, as well as the difficulties in establishing a satisfactory provision for health care in the family budget, one immediately perceives certain problems of extreme economic importance to the medical profession. Certain items exist which, naturally, have their reactions upon medical practice. The growth of public health administration away from mere problems of sanitation to efforts in connection with prophylactic and diagnostic medicine has profoundly affected the financial opportunities of the medical profession. On the other hand, the same efforts towards improving the public health thru medical inspection of schools, diagnostic laboratories, hospital and dispensary systems, have provided ample opportunities for gains to the profession not merely thru the creation of new positions, but thru the awakening of the public mind to the importance of securing medical service early and adequately. On another hand, many physicians fear the paternalistic developments in health administration and, lacking social vision, see therein only a plan to encompass their downfall.

The need for social insurance may be recognized as placing upon society the responsibility for reparation insofar as may be possible for the many crimes against health which are due to its own complexity. Many in the profession conceive of social insurance as merely another form of social

trickery to accomplish the enslavement of the profession, hence the great agitation caused at the introduction of any social insurance bill into legislative halls. The profession itself is conservative, however, and has unhesitatingly opposed almost every public health innovation along social lines, as witness the opposition to the registration of tuberculosis, the introduction of medical inspection of schools, the establishment of special dispensaries and the introduction of free pathologic service.

Lodge practice has been both a blessing and a curse, depending upon the point of view. The small capitation fee system that is supposed to pay for adequate medical service not merely to lodge members, but to their families in many instances, has hardly proven itself to be valuable from the standpoint of the prompt restoration to health and vigor. Lodge members themselves view with suspicion and oftentimes lack confidence in their fellow members, whom they rather contemptuously designate as "lodge doctors." This type of practice is in effect a form of social insurance work and may account for the attitude of some physicians towards state enactments that would make lodge practice unnecessary.

Discussing voluntary health insurance in New York City, Anna Kalet, *American Labor Legislation Review*, June, 1916, states that in eight fraternal societies, six that are national with 1,800 branches, the lodge physician gets one dollar per year per member. If treatment is to cover the needs of the entire family there is a charge of one dollar extra. Two independent societies have an annual payment of \$175 and \$225, respectively. In seven mutual societies examiners receive between \$170 and \$420 per year.

One of the great factors of war medicine has been the establishment of cooperation instead of competition. The military officer had an assured income and the necessity for competition was entirely destroyed. Quite in line with this experience is the tendency toward the development of co-operative plans of medical practice, such as are reflected in the practice of group medicine, the organization of diagnostic clinics and pay clinics. These efforts create still further dissension within the profession and economic unrest is everywhere discernible.

The growth of specialism in large cities has led to one particular economic abuse known as dichotomy which, again, has introduced a very serious problem into the ethical practice of medicine and too frequently promotes the exploitation of the public in directions which are unsatisfactory to everyone.

The income of the doctor is a matter of special importance to the profession. It is difficult to secure accurate figures upon this subject and I hesitate to repeat the guesses that are so common in public opinion that the average annual income of the average doctor lies between \$900 and \$1,200 a year. In the way of establishing figures, permit me to quote the results of a study of the average income of Harvard medical graduates by classes covering the ten-year period from 1900 to 1910 in increasing years of experience. The average income of the first year in practice varied from the low \$350 of the class of 1907 to the high \$1,237 for the class of 1910. The average for the second year varied from the low of the class of 1905, \$773, to the high for the class of 1908, \$1,250. The third year varied from the low of the class of 1905, \$995, to the high of the class of 1910,

\$1,578. For the fourth year, the low was \$1,505 for 1901 and the high average was \$1,835 for 1910. For the fifth year the variations were from the low of \$1,556 for the class of 1902, to the high of \$2,359 for the class of 1906. The highest average for the sixth year was \$3,202 for the class of 1907. Highest for the seventh year was \$3,650 for 1906; the highest for the eighth year was \$4,332 for the class of 1906. For the ninth year, \$4,500 for the class of 1905; highest for the tenth year, \$4,535 for the class of 1904. The highest for the eleventh year was \$4,603, class of 1903; the highest for the twelfth year, \$4,422, for the class of 1901; the highest for the thirteenth year, \$4,680, class of 1901. It is evident that the highest income reported for any of these classes graduating within the ten-year period was \$4,680. To many persons who think merely in terms of the large fees given to our few most successful surgeons and specialists, the experience of Harvard medical graduates will appear to be somewhat of a revelation.

In Richmond, Va., according to the 1915 returns for the state income tax, only 32 out of 330 physicians reported an income of over \$4,000 a year. It is evident that on a statistical basis a large number must have an income of under \$2,000 a year. It may be said, in passing, that \$2,000 a year was not reached by all the groups of Harvard graduates until their seventh year of practice.

In Wisconsin, according to the Wisconsin Tax Commission, 1914, 1,642 doctors were taxed out of a total of 2,832, that is, less than 60 per cent. of them, and the taxable income of the group averaged \$1,488.

According to the figures of the Bankers' Trust Company the annual earnings of all

the groups of families subject to their investigation amounted to \$38,250,000. If we accept, on the basis of minimum wage investigations, that approximately 2 per cent. of the income should go for general medical, nursing and health service, the total amount available in the country for this purpose would theoretically then be \$765,000,000 a year. If this were equitably divided among, let us say, practically 100,000,000 practitioners in the United States, the annual sum available would be \$7,650 per year per doctor. It is apparent that this form of computation is inaccurate in many ways owing to the large dispensary population, on the one hand, and the inequality in distribution of medical prices thruout the country, but it is patent that the opportunity of the average physician to amass a fortune is exceedingly small. This makes it apparent why the medical profession is particularly interested in all efforts to reorganize the social and economic system because of fears that the now small incomes may be even further reduced.

It has been my purpose to present the paramount basic facts relating to the economics of health. It is not really essential to discuss at length the merits and demerits of compensation acts, social insurance, minimum wage laws, recreational facilities, physical training, district nursing, prenatal care, maternity clinics, medical inspection, school nurses, health centers and similar agencies which are now available, or should be made available for lightening the economic burdens of patients, physicians, employers and the community. I propose to refer to these in a general way, in order that they may be studied and interpreted in the light of the facts which I have presented.

Much of the distress among workers

arises from wage deficiencies due to unemployment. The causes of idleness may be attributed to disability, arising from sickness, old age, industrial accidents or disease; personal failings, such as intemperance, vagrancy, disinclination to work; personal deficiencies, as lack of education and training; or conditions in industry, resulting from the form of organization, the hiring system, seasonal fluctuations and the increase in machine work. Without exception, these causes may be said to be related to our social and economic system, tho their specific results may be particularly exhibited in the personal deterioration and devitalization of individuals and families. As stated in *Public Health Bulletin Number 76*, "The effects of irregular employment are not limited to the physical impairment caused by worry and periodic overdriving. The lessened opportunity to earn wages caused by irregular employment or by physical disability means a smaller income and, therefore, a lessened ability to maintain a healthful standard of living." The reports of the trade union secretaries to The New York State Department of Labor, from 1902 to 1909, inclusive, showed that 5 per cent. of their members were idle in the busy season, and 15 per cent. during the winter. During years of business depression this percentage rises from 15 to 35 per cent. It may sound strange to place unemployment problems within the range of vision of health administrators, but irregularity of employment is distinctly related to the relief and prevention of disease among the industrial population.

Workmen's compensation acts already exist in 38 states as well as in Porto Rico, Alaska and Hawaii, and probably two-thirds of the industrial workers are now covered. The War Risk Insurance Act of

the Federal Government provides insurance for 4,000,000 soldiers and sailors for over \$38,000,000,000, an average of \$9,000. This insurance is against death, total and permanent disability. Eighteen thousand soldiers and sailors who were insured died from the influenza, and for them, during the next twenty years, the Government will pay \$175,000,000, which will certainly be of immeasurable assistance to the families of the decedents, enabling them to have some protection by virtue of the insurance after the death of those who might have aided them.

The burdens of physicians will undergo various changes thru the development of salaried clinical assistants in hospitals and dispensaries, an increased number of positions arising from the socialization of medicine, an extension of opportunity in the fields of health education, physical training, industrial hygiene, corporate hospitals, public health agencies for relief of tuberculosis, venereal diseases, cancer, mental aberrations, etc., and the growth of medicine along prophylactic lines.

Employers will find many reliefs from burdens thru the application of regulations concerning the employment of women and children, the regulation of hours of labor, the development of safety sanitation, the organization of first-aid stations and care, the extension of social service, the development of corporate schools for specific education for the needs of industry, and the general introduction of a higher type of industrial hygiene.

The community, as a whole, already has introduced, or is contemplating the introduction of numerous forms of machinery and agencies for the purpose of directly or indirectly benefiting public welfare. An enumeration of some of the devices will suffice

to suggest the lines along which efforts are to be made in order to lighten the economic burdens of communities. I merely mention some of these important agencies in health administration for the purpose of encouraging thought concerning their usefulness and communal benefits. Consider the possibilities of pre-natal care, maternity care, supervision during the pre-school age, medical inspection of schools, school nursing; better trained health officers on full time at higher pay; the extension of hospital and dispensary facilities, district nursing, the notification of disease, diagnostic laboratories, the regulation of venereal diseases; public health education; special types of classes to attack diseases especially serious in any locality, first-aid stations, ambulance zones; mothers' pensions, old age pensions, invalidity insurance, maternity insurance, sickness surveys; the education, supervision and control of midwives; the regulation of alcohol, the inspection of foods and drugs, the protection of food, milk and water supplies; sanitary inspection, improved tenement house laws, factory inspection; better registration of births and deaths; extension of recreational facilities; the encouragement of annual medical examinations; improved methods for the control of industrial accidents and diseases; raising the standards of education along with the age at which children may enter industry, etc., etc.

In brief, the methods for lightening the economic burdens of patients, physicians, employers and the community depend upon an appreciation and an understanding of the interdependence of individual and familial units comprising the nation. It must be recognized that there is a "community concern and responsibility for the unavoidable risks of sickness and disability thru accident, invalidity, old age or unemploy-

ment." There must be realization that the health and the wealth of the nation are closely interrelated. A decrease in the vitality of a single individual does lessen the vitality and productivity of the nation even tho its effects be imperceptible. "The first wealth is health," and, with this idea in mind, I have sought to present the basic elements in The Economics of Health.

CANCER OF THE RECTUM—PREPARATION OF THE PATIENT FOR OPERATION.

BY

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Chicago, Ill.

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Patients presenting themselves with cancer of the lower bowel are always suffering with toxemia, due to the prolonged partial intestinal obstruction, necrosis, ulceration and its associated bacterial infection of the growth. This should be relieved before the patient appears for operation. In all cases in which there is marked stenosis of the bowel a preliminary hypogastric colostomy should be performed at least two weeks before the operation. If there be no abdominal distention and if the lumen of the bowel be not much encroached upon the colon should be thoroly emptied of its contents by the aid of enemas and mild purgation.

In spite of very careful antiseptic preparation of the anal region so many fatalities occur from infection and giving away of the sutures because of the flowing of the intestinal contents over the wound that I always make an artificial abdominal anus

as the first step. Whether this shall be a temporary or permanent abdominal anus depends upon the findings in the case.

One of the many advantages of colostomy as preliminary to excision of the cancer is the opportunity of examining thoroly the bladder, urethra, prostate, uterus and pelvis to determine if the disease has invaded structures other than the rectum.

There are cases that primarily seem inoperable. They are immovable, not because the carcinoma has invaded the surrounding tissue, but because it has carried with it a form of infection that has immobilized the carcinoma. In these cases there are no metastases, altho there might be lymph nodes which were no doubt the cause of the inflammatory condition and it is possible many times to distinguish these lymph nodes from those that gradually become carcinomatous. If there are no metastases either farther up in the intestine or in the liver, which can be examined, if the incision is made sufficiently large and if at the time of the operation these lymph nodes are not carcinomatous, but are in fact inflammatory, the effect of the colostomy will be that the rectum again becomes movable, in other words, the absence of the passage of infectious material over the carcinoma eliminates the continuous and repeated infection and because of that inflammatory conditions subside and the carcinoma again becomes movable and it can be removed, and a certain number of these patients will remain well.

Early colostomy in inoperable cases is as vital to the patient as early operation in the operable cases. It is a great injustice to put off this operation until the patient is moribund. If colostomy is indicated it certainly should be performed before the individual has become so weakened by the

disease that the operation will be of no benefit.

Sometimes adhesive bands from the rectum are only inflammatory and if so found extirpation of the growth offers hope of success. Involvement of the vaginal wall, bladder or prostate betokens metastasis and is a serious complication. The patient's ability to resist infection is a large factor in prolonging his life. If the digestive functions remain good his physical strength is conserved and the constitutional invasion of the disease retarded. Highly nutritious, absorbable foods, such as eggs, egg albumen, meat extracts, milk, bread and well-cooked cereals are indicated, whereas, sweets, uncooked starches, fibrous vegetables and all such foods that leave much intestinal refuse should be avoided. Of course, the patient's taste will vary the diet list. The absolute milk diet is not so satisfactory as when meat, broths and breads are allowed. Sufficient laxative should be given to provoke two or three loose evacuations a day.

Irrigation.—Twice each day the rectum should be irrigated with one-half strength saturated solution of boric acid or 1 to 5,000 permanganate of potash solution to remove hard, lumpy, putrifying fecal masses and also relieve diarrhea or other discharges. The solution should run in slowly so that it will pass up above the disease and thus wash out mucus, pus and fecal matter which may have accumulated above or below the tumor. Under this treatment for two weeks sepsis is eliminated and the patient's physical condition much improved and he is the better prepared to withstand the shock of operation.

If the disease is limited to the anal epithelium it is not necessary to remove the rectal ampulla or the retrorectal glands as the lymphatic drainage of the anal canal is

downward across the perineum and into the inguinal glands. Here a perineal amputation is suggested.

THE EVACUATION OF KIEV.

BY

HENRY ALTIMUS,
Paris, France.

There is a street in Belgrade called the Rue de Capitaine Fox. It was renamed about a year ago by order of the Serbian Government in honor of Captain Walter H. Fox, of Waucoma, Iowa, a physician in the service of the American Red Cross, who succumbed to pneumonia at Semendria, Serbia, February 22, 1919, while carrying on medical relief work among the poor.

Outside of Waucoma, his home town, the name of Dr. Fox is scarcely known in America. Ask any little street urchin in Belgrade who Captain Fox was and the prompt response will be: "He gave his life for Serbia."

Captain Fox's name has become a household word thruout Serbia; it has become the symbol for service and self-sacrifice. But this Yankee doctor's name is not the only one which has remained obscure at home and has covered itself with glory in the hard-tried, war-ridden areas of eastern Europe and the Balkans.

In February, 1919, when Fox gave his life in the relief of the poor of Serbia, the war was over for America. American doctors in the army abroad had returned to their tasks at home. Those in the various services at home had resumed their practices and returned to normal life. Magazines and newspapers were printing symposia on the splendid rôle of American medical men at the front and in the various

fields in which they had made their contribution to victory. AMERICAN MEDICINE published an honor roll of those who had died in the service of their fellow men.

And presently these symposia, these eulogies ended. The final tribute had been paid. That chapter of medical history was closed. The word "Finis" was scrawled across the bottom of the page.

Yet in Serbia, in Poland, among the

Of these American medical men, of their fine work and self-sacrifice even today, two years after the Armistice, the public at home hears little or nothing. Even the well-informed practitioner hears little of these colleagues.

It is in view of this that the story of the evacuation of Kiev by the Poles last June, as reported by an American doctor, Major A. G. Plankers, of the American Red Cross,



Photo by J. W. Van Wert, Fenton, Mich.

RETREAT FROM KIEV.

Group of Americans who retreated from Kiev after the collapse of the Polish occupation. They are members of a Red Cross unit which conducted relief operations for the civilian population of Kiev during the Polish occupation. Dr. Geo. D. Whiteside, Red Cross Commissioner for Poland, stands in the center of the group. Extreme left: Charles Phillips, New Richmond, Wis.; Dr. A. G. Plankers, St. Paul.

To right of Dr. Whiteside, center, Charles E. Hoelzle, Bergenfeld, N. J.; J. P. Dunne, Brooklyn; H. H. Hall, Pittsburg.

Nine Red Cross lorries conveyed all the American personnel and motor transport from Lemberg. Small lorries were carried atop of large trucks in order to economize in gasoline.

stricken populations of eastern Europe. American doctors were still giving or hazarding their lives in the service of their fellow men. The war had ended for America, but it had not ended for millions in Europe. And it had not ended for these doctors who had cast their lot, perhaps as much in the spirit of adventure as in the spirit of service, with the suffering men, women and children of alien races.

tho essentially a chapter in military history, is of special interest to American doctors. For them the drama of the narrative is intensified by the presence of two groups of American doctors, whose story is intimately wrapped up with the story of the evacuation of Kiev. It is one incident of many similar ones which have occurred recently in the eastern theater and in which the American doctor has played a splendid

rôle. If there were no casualties among these groups, it is not because they did not tempt Providence.

There were two Red Cross relief units operating in and near Kiev at the time of the rapid advance of the Red Army on that city last June. In charge of the first unit were the following doctors: Major B. M. Mohler of Minneapolis, and Major H. H. Snively of Columbus, Ohio, both of the Red Cross, and Colonel Henry Shaw of the League of Red Cross Societies. The doctors at the head of the second unit were Major A. G. Plankers of St. Paul, representing the Red Cross, and Lieut.-Col. George Fordham of White Plains, N. J., representing the League. The westward stream of refugees, as the Soviet Army advanced, gave them plenty of work to do.

On June 7 it became evident that Kiev would have to be evacuated and the authorities were making hurried preparations. Trainloads of refugees and civilians were pouring out of Kiev on their way to Poland. The women personnel of the Polish Red Cross left the city the following day. The booming of the Bolshevik artillery could be heard distinctly and was coming closer every day. The Reds were advancing in enormous hordes. They had already crossed the Dnieper north and south of Kiev.

The doctors held a conference and it was decided that the Red Cross units stay.

On the evening of June 8 M. Jadko, head of the Polish Red Cross in Kiev, notified them that he had received word from the army staff that the Polish and American organizations were to leave the city immediately. Every hour the withdrawal from the city was growing harder. The railroad bridge to Koresten, one of the avenues of retreat, had been blown up.

The road to Zytomierz was under artillery fire and was no longer passable. It was expected at any hour that Kiev would be completely surrounded. In that event all in the city would have to wait until relief came from Warsaw.

The American doctors conferred once more and again they decided to stay. The demands on their services were increasing from moment to moment and they felt they could not leave, whatever the danger, while there was work for them to do.

About eleven o'clock on the morning of June 9, the bridges across the Dnieper were blown up by the Poles, all the Polish troops being withdrawn to the west bank of the river. The artillery battle for the city had already begun, Bolshevik shells falling in the river and on the western bank. A few stray shells were dropping in the eastern part of the city. The army staff put facilities at the service of the American Red Cross units, urging them to avail themselves at once of their last opportunity to leave the city. The unit's food supplies were dwindling, the situation was becoming critical.

For the third time the American doctors conferred. This time they decided on a compromise. With true Yankee impudence they agreed to wait until the last possible moment, promising a sincere effort to get away in time. If they were trapped in a siege, so much the worse for them. And they continued their work.

There was one element which persuaded them to stay even beyond the counsel of discretion: their presence in Kiev was sustaining the *morale* of the population who had been unable to get away. Every morning during the last four days a crowd had gathered before the American Red Cross headquarters, watching to see if they were

getting ready to leave. On being told the Americans were remaining, the crowd would move away more confident.

On the evening of June 9 the shelling of Kiev began in earnest. Incendiary fires were breaking out in various parts of the city, one but a short distance from the American headquarters. Fires were difficult to control due to the poor water pressure. At one of these fires Major Mohler and several of his personnel assisted in extinguishing the flames and saving the lives of women and children trapped in the burning buildings.

Still the units remained. They went to bed early that night, feeling that by morning they *might* be ready to go. All thru the night the shells fell. At about 5 a. m. Major Plankers was awakened by a shell bursting within a hundred feet. Lt. Sherman, one of his aids, was sleeping in a cot next to his. Major Plankers felt the cot tremble, and then he heard Sherman's voice:

"Now, Doc, I'm not scared. Honest, I'm shivering because I'm cold!"

Both men were sound asleep again in a few minutes. At 7.30 Major Plankers and Colonel Shaw called at the Sanitary Chief's office. A shell had struck the building a few hours previously, destroying part of the office. The doctors received strict orders to delay no longer and leave at once. There was no disobeying these orders, and reluctantly they gathered their units and prepared to withdraw.

One unit was to leave by motor, the other by the train which was to pull out of the station by noon or even earlier. But even then the men showed no haste in retreating to safety. At a few minutes of noon Lieut.-Col. Fordham was emerging from his bathroom lathering his face for a

last shave in Kiev.

"Nero fiddled while Rome burned," said Major Plankers afterwards, "and Colonel Fordham shaved while Kiev was being evacuated."

It was two o'clock before both units gathered to bid each other good-bye, each feeling that it had done its utmost. The shelling of the city was now intense. Fires had broken out in many parts of the city and some looting had already begun. At the last moment Major Plankers realized that there was a stock of coffee and cocoa in the Red Cross warehouse, supplies that would be a God-send to the people of the city. He decided to make a dash for these supplies and to leave them with the population.

This was not easily managed, shells falling thickly in that section of the city. But the last dangerous mission was finally accomplished and it was seven o'clock when Major Plankers and his party at last began their exit.

The motor party reached Zytomierz at 6 p. m. the next day, all the time under a heavy shell fire. This was not a safe place to call a halt, but safety was always a last consideration with these Yankee doctors. There was a Russian Red Cross hospital in the city and they decided to pay it a visit and see what aid they could give.

While they were making the rounds of the hospital a Polish peasant came rushing up from a nearby village and reported that about 5,000 of Budenny's famous Russian cavalry and 2,000 infantry were advancing on the city and were only a few kilometers away at that moment. They were making an attempt to cut the road between Zytomierz and Zviahel, the unit's next destination. The motors were immediately gotten ready and the unit began a wild drive for

Zwiahel in a race to beat Budenny's cavalry to that point. The Americans won the race. How they managed, heaven only knows. For, tho under almost constant shell fire and with the Red cavalry at their heels, they stopped at numerous points to serve hot coffee to the hordes of refugees they encountered on the roads. The party finally reached Warsaw safely, after a sensational drive of 810 kilometers.

The unit which left by train had similar thrilling experiences. "All thru the first night of the withdrawal," says Major Plankers' report to the Red Cross, "the flash of cannon blazed along the horizon, while back of us the sky was bright with the burning of Kiev, with other conflagrations showing to the north and south. We were headed for Zytomierz, but our danger lay in the fact that none knew for a certainty what army was then occupying the city or would be in possession of it when we arrived, the battleline shifting from hour to hour."

At one point the train was lost and an American aviator in the Kosciuzko Squadron, Captain Cooper, was sent out to locate it. He finally succeeded and dropped a note directing them safely out of the circle the Red cavalry was drawing about them.

It was not until June 16, six days after their start from Kiev, that all the Red Cross workers were safely in Warsaw. Major Plankers' laconic report on his arrival in Warsaw is a triumph of modesty. There is in it no mark of gratitude and relief for an almost miraculous escape. There is only regret.

"The American Red Cross," were his words, "remained in Kiev to the last and left only under strict orders. We withdrew reluctantly, all regretting that it was impossible to continue our relief work

among the afflicted population of Kiev."

Thus an American doctor has contributed a message which is worthy of a place beside the famous messages of American history. And American doctors have contributed a record of courage and service which should fill the hearts of their colleagues at home with pride.

THE ETIOLOGY AND TREATMENT OF GASTRIC ULCER.

BY

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In the past few years advancement in the study of the pathology of gastric ulcer has made such rapid progress that it seems to me to be superfluous to attempt further elucidation of this phase of ulcer. Therefore, in presenting this short paper upon the subject of ulcer I will confine myself to the etiology and treatment.

There has been several explanations as to the production of ulcer and I shall discuss only the more important ones, of which infection without doubt holds the most important place.

Etiology. 1. *Infection.*—All ulcers of the stomach are, in my opinion, the result of microorganisms, either direct thru the gastric mucosa or hematogenous in origin and secondary to a primary focus elsewhere in the body.

The extensive experiments of Rosenow¹ have exploded the theories of "local necrosis," hyperacidity, trauma, dietary indiscretions and "ulcer-bearing individuals" of the older textbooks. The fact remains that

¹ Memorial Institute for Infectious Diseases, Chicago. Mayo Foundation, Rochester. "The Causation of Gastric and Duodenal Ulcer by *Streptococcus*," *Bulletin*, 1916.

every ulcer excised from the stomach shows the presence, usually, of some strain of streptococcus either alone or in association with some other organism.

2. *Thrombotic Local Necrosis.*—The assumption by some authorities that thrombosis of gastric capillaries or end arteries in the gastric wall would aid in the production of ulcer is, of course, an absurdity, inasmuch as we know that the collateral circulation would be instantly established were an end artery to be occluded from any cause whatsoever, and would not affect the mucosa materially within an area of 1 or 2 cm. in any direction.

There may be congestion, ischemia or cyanosis of the area occluded, but no ulcer formation if no infective organisms are present. Personal experiments in the laboratory have shown this conclusively.

3. *Gastric Hyperacidity.*—This is without doubt or equivocation the most abused and most accused of all gastric conditions.

Everything from peristaltic unrest to gastric carcinoma is, or has been, ascribed to hyperacidity, and I doubt very much if it is, at any time, a pathologic entity alone, not due to some abdominal pathology either within or without the stomach.

As to its ability to produce ulcer, one has only to think that if it may produce a localized ulceration why not a universal one in the whole gastric mucosa.

I am fully aware that the presence of hyperacidity increases the symptoms of pain and sour stomach in ulcer, but I cannot subscribe to the idea that it produces localized pathology of the mucosa.

4. *Trauma.*—Local trauma directed against the gastric mucosa would have to be very severe indeed, and produced by some foreign body or some especially irritating type of food.

5. *Ulcer-Bearing Individuals.*—The infective focus for producing the primary ulcer may operate precisely in the same way to produce a secondary one in the same foci of infection are allowed to remain after excision of the ulcer as before, and an ulcer may form in or around the stoma of a gastroenterostomy if the individual be permitted the same diet, hygiene and environment, and if the same primary focus that produced the primary ulcer is not eliminated.

So we may dismiss those ideas of trauma, local necrosis, hyperacidity and all of those attempts to explain simple infection by obscuring the real idea. Any or all of these or any other equally preposterous subterfuge will not explain the presence of streptococcus or associated infection in every ulcer excised from the stomach.

Treatment.—We may dismiss the medical treatment of gastric ulcer with the positive assertion that it does not exist. In the words of W. J. Mayo, "surgical treatment of this condition should be undertaken after nine definite medical cures."

There is no question as to the relief of ulcer under rest, milk and cream diet and antacid drugs, but with a return of the patient to his or her former surroundings and occupation, and carelessness in feeding the condition invariably returns.

Excision.—This procedure, of course, holds out the only hope of cure and this may be accomplished with or without gastroenterostomy.

When one or more ulcers are located in the body of the stomach or toward the cardia, excision alone would appeal to me as the most conservative treatment. To perform gastroenterostomy in this condition is certainly a waste of valuable time and adds nothing in the way of a therapeutic result.

Pyloric Ulcer With or Without Stenosis.—This condition is the only positive indication for gastroenterostomy in addition to excision of the ulcer-bearing area with the cautery. I am of opinion that excision should be done whenever possible in addition to the short-circuiting operation here, as stenosis invariably takes place in time to such an extent as to make the combined operation necessary.

Gastroenterostomy for Drainage in Ulcer of the Corpus.—This is only another of those "pipe dreams" of surgery and should be placed in the same category as "local necrosis due to obstruction of end artery," etc.

It is highly amusing to me to imagine it necessary for a stomach to be "drained"

and put at rest when there is no obstruction present to the onward passage of food. Large gastrojejunal openings for "drainage" of the stomach invariably produce hyperperistalsis of the small intestines with an attendant diarrhea, due to the fact that a large quantity of partly digested food is rapidly passed into the jejunum before the gastric phase of digestion has hardly begun, and which produces a dilatation of the jejunum, post-operative pain and vomiting and oftentimes vicious circle.

The stomach is no more capable of "rest" in the presence of food than is the heart in its pulsations and, of course, it should not be so.

Gastric digestion must continue after gastrojejunostomy just the same as before, and this operation does not, nor should not, take the place of the gastric phase of digestion as some would have us believe.

After performing a rather large number of gastric operations I am of opinion that the only indications for gastrojejunostomy are pyloric obstructions due to ulcer with or without stenosis and inoperable carcinoma and I cannot subscribe to the theory of this operation for every conceivable condition of gastric pathology.

Gastric ulcer has been the *bête noir* of surgeons and there are a number of us who could, if the truth were told, cite a number of instances of hideous mistakes in our treatment of this condition.

So henceforth let us endeavor to outline a standardized method of treatment and not be so hasty in performing gastroenterostomy for any and all gastric ulcer no matter what the pathology or location, and hold it in reserve for pyloric ulcers with or without stenosis or inoperable cancer of the pylorus.

Summary.

I would emphasize the following points in the treatment of ulcer:

1. Dismiss completely from our minds the thought that ulcer of the stomach is produced in any way other than by infection.

2. Discard the idea of "gastric drainage" and only think of gastroenterostomy as an operation to relieve obstruction to the onward passage of food or to diminish the irritation of pyloric ulcer by directing the food thru another channel.

3. Small stomata, preventing the too rapid passage of food, circumventing in large measure the vomiting, pain and diarrhea so common where large openings are made for "gastric drainage and rest."

4. The treatment of ulcer in the corpus by excision with the cautery and closure without gastroenterostomy.

5. Post-operative care and careful diet with supervision of hygiene, occupation and rest.

6. Inability of medical treatment to cure the ulcer.

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EUROPE'S HEALTH FRONTIER.

Draw a line across the map of Europe from the North Sea to the Adriatic, bending it to follow the eastern frontiers of Holland, Belgium, France, Switzerland and Italy, and you will have marked off the easternmost boundary of more or less normal life on the continent today. Draw another line, roughly paralleling it, from the Baltic to the Black Sea—six hundred miles to the east—and you will have outlined the border of Bolshevism.

Between these two lines a battle is being fought. It has two phases. One, which flares up sporadically, is military. The other, which continues day and night, relates to disease; and it is this one which is by far the most important at present.

Poland, Czecho-Slovakia and Roumania are the three States which touch both Russia and Central Europe. If the epidemics which are pressing westward from Russia should conquer them, it would be the turn of Germany, Austria and Hungary, which constitute, so to speak, the second line of defense. Sandwiched between and to the south of these lines is Jugo-Slavia. Should these fall, the next stopping place of disease would be the Atlantic. Reports which present what might be termed a snapshot of the health and sanitary situation of

Poland, Czecho-Slovakia, Roumania and Serbia show:

There is danger of the typhus epidemic spreading into western Europe from Poland.

There is some danger of its introduction thru Czecho-Slovakia, but little thru Roumania or Serbia for the present.

None of the four countries have adequate sanitary personnel or equipment; but the situation in Poland is by far the most acute, the forces now on the ground being inadequate to check the spread of typhus, let alone to eliminate it.

Poland needs help on a scale which neither its Government nor the voluntary relief agencies now operating there can furnish.

The information concerning Poland comes from William C. Boyden, Commissioner of the League of Red Cross Societies to Poland, and is supplemented by a report of Colonel Gauthier, Chief of the French Sanitary Mission in Poland, which covers the month of February, but which has just been submitted by Colonel Gauthier to his Government.

"Typhus," says Mr. Boyden, "is not only a Polish but a world problem, and for reasons perfectly clear it should be tackled by governments, thru the League of Nations, cooperating with the League of Red Cross Societies."

Adequate statistics are almost impossible, so far as any part of eastern Europe is considered. The figures given by Colonel Godlewski, Polish High Commissioner of the Struggle Against Epidemic Diseases, are regarded as being fairly representative. He estimates that until the month of March there had been 250,000 cases of typhus in Poland, and at least 25,000 deaths. Galicia is the district which at present is suffering most from epidemic disease; its monthly tribute to typhus is about 3,500 lives and the number of cases reported each month averages roughly 20,000. All of Lithuania and White Russia are epidemic centers of typhus.

The typhus epidemic reached its peak during January and the first few days of February, and began its decrease during the last part of February. From that time until the present the decline has been noticeable, but this is attributable to the advent of warmer weather rather than to the means

employed to combat the epidemic.

The February figures showed an increase in typhus on the front of Lithuania-White Russia, the only one from which statistics were obtained. The mortality rate rose to 5.18%, there having been 2,139 cases of typhus on this front. Influenza incapacitated 1,134 men on this front and typhoid 667.

The health of the army in the Zone of the Interior was chiefly menaced by influenza and venereal diseases, while typhus, typhoid, recurrent fever and dysentery ravaged the prison camps in which the Bolshevik and Ukrainian captives were held. In March, for instance, when there were 19,510 men in the prison camps, 1,141 were suffering from these four diseases alone.

Epidemics of smallpox and relapsing fever, prevalent during the winter in Congress Poland, Galicia and Posnania, have decreased during the spring, altho relapsing fever has tended to increase somewhat in the larger cities, due to the fact that since many villages in the East have been absolutely wiped out, the refugees returning from Russia have sought shelter in urban regions.

The "sanitary cordon" of the East has not yet, according to Colonel Gauthier, given tangible results. Of the three sanitary lines of defense outlined to prevent the importation of the epidemics which rage in Russia, one only is functioning efficiently at present. In Galicia the passage of Petlura's army, and then that of the army of Bredoff, sowed the scourge of typhus and this disease now would be a serious problem even tho the introduction of new cases were to be checked.

Late in May it was announced that the typhus death rate in the Polish Army and among the prisoners did not exceed 9%. Sixty-five doctors have succumbed to typhus.

"So far as organizations destined to stamp out typhus on the spot are concerned," says the report of Colonel Gauthier, "the 'movable epidemic columns' are still insufficient, and their organization proceeds very slowly. At present the greater effort bears on reorganization or upon the creation of hospitals." Colonel Gauthier also deplors the lack of sufficient equipment or personnel to deal with epidemics in Poland.

Mr. Boyden's report gives a summary of

the relief organizations now working in Poland. Upon his arrival as Commissioner of the League of Red Cross Societies the chairmen of these various agencies organized themselves into a committee, electing Mr. Boyden as chairman, the purpose being to coordinate the work of the American relief agencies in their campaign against typhus. So far as is possible, the Polish Government now deals with a single representative instead of with the heads of numerous commissions.

The Polish Government having designated Colonel Godlewski to take charge of the entire antityphus campaign, it was planned to start a nation-wide antityphus drive about May 1, but the military offensive undertaken against the Bolsheviks so attracted the attention of the country that the campaign was slow in starting.

In this nation of 22,000,000 people, then, it may be said that at present the typhus epidemic is still a menace which is far from being under control, nor can it be controlled until the whole country is, to a greater or lesser extent, "cleaned up."

The situation in Czecho-Slovakia is somewhat brighter, but there, nevertheless, is no small amount of typhus there, especially in the villages in the Carpathian region of eastern Slovakia, Ruthenia and in the plebiscite area where the Polish, German and Czech frontiers meet. Francis Kulhany, Minister of Health of Czecho-Slovakia, states that the situation in his country with regard to typhus and to smallpox was satisfactory before the war, but that Slovakia and Carpathian Russia had long been endemic homes of these diseases.

"Nowadays," he writes, "the difficulties are far worse. Owing to the temporary anarchy after the crushing and the going to pieces of the Austrian front, as well as the invasion of the Magyars into Slovakia in July last year, infectious diseases spread very extensively. Nevertheless, the sanitary authorities succeeded, by means of strenuous efforts, in obtaining noteworthy success. The principal danger now threatens from the fact that infectious diseases are constantly brought into the land from abroad."

Lady Muriel Paget, who is very prominent in relief work in eastern Europe and who was recently in Geneva, stated that there is at present an epidemic of dysentery

in Czecho-Slovakia. A similar outbreak last year was attributed to the bad flour supplied the population.

"There is virtually no sanitation," said Lady Paget. "There is a tremendous need for nurses, and Hungarian hospitals are the only places where I have seen any. Most of the schools are closed owing to the fact that the Hungarian teachers have been withdrawn and that there is no one to replace them.

"The children are mostly brought up on black coffee, but they are much better this year. American feeding has done wonders.

"The tuberculosis situation is very bad. They have two sanatoria, one having 300 beds and the other being smaller. Sometimes as many as fifteen people sleep in one room."

Prior to the war there was relatively little typhus in Old Roumania and Transylvania, according to a report of Professor George C. Whipple, Chief of the Department of Sanitation of the League of Red Cross Societies, who has recently returned from Roumania; but in Bessarabia it has been endemic (always present) for many years. In 1917 and 1918 a great epidemic of typhus swept the entire country, bearing with especial severity on Moldavia, a province located among the Carpathians. In 1919 there was relatively little typhus in Moldavia and Debrudja (the southernmost Black Sea province), but a great deal in the western parts of Mundonia and Oltenia, which had been occupied by hostile forces for two years. It is probable that there was a great deal in Bessarabia also. During 1920 the only parts of the country where epidemic typhus has been present have been Bessarabia (the northern Black Sea province) and Maramures, the latter province being adjacent to Ruthenia (the eastern arm of Czecho-Slovakia), where the disease is very prevalent.

Before the war Roumania was fairly well organized to prevent the spread of typhus. Efficient hospitals and quarantine stations were located along the frontier, and persons arriving from countries where typhus prevailed were examined, isolated if sick, and kept under surveillance for three weeks. These stations were well equipped with sterilizers and delousing stations.

During the war the army took over the delousing stations, which deteriorated great-

ly under constant use. The hospitals and stations in territory occupied by the enemy have been despoiled.

Altho virtually the whole hospital, medical and sanitary service of Roumania need attention; and altho there is a need of soap, linen, clothes and means of transportation, the establishment of a military cordon at the frontier and the erection of temporary delousing stations represent efforts to bar out typhus. And, altho the control measures are inadequate, there is relatively little typhus in the country (except in Bessarabia and Maramures), and it is not spreading.

"Improved transportation," remarks Professor Whipple, "is the greatest need of Roumania, and is the key of its recovery from war devastation."

Professor Whipple, nevertheless, does not think that there is danger of typhus spreading thru Roumania to western Europe, and gives the following six reasons:

1. The military cordon on the Dniester is strict; and the old frontier on the Pruth can be reestablished should typhus from Bessarabia tend to spread westward.

2. Old Roumania has passed thru two years of typhus and its people probably have acquired considerable immunity.

3. Transylvania's population has a good sanitary sense, and its health organization is fairly well organized.

4. The food conditions are steadily improving.

5. The delousing plants out of commission could be put into use at comparatively little expense.

6. The health service of the country is being reorganized.

"This opinion presupposes the continuance of peace conditions along the frontier," warns Dr. Whipple, "and the following qualifications should also be made: there is some chance of typhus extending westward from Maramures into north Transylvania, and some danger from prisoners and refugees from Galicia passing thru the country, but this need not be a menace if the health authorities are reasonably active.

"With the present military cordon maintained, cholera is not likely to be a menace to Roumania, but the sanitary situation at present is, in my opinion, of grave concern. The Roumanian Army is said to be protected by vaccination, and there is at Bucharest an excellent laboratory for the man-

ufacture of cholera vaccine.

"Syphilis is becoming a serious menace to the health of the country, and is giving the Roumanian officials more concern than typhus or cholera. Tuberculosis, smallpox, typhoid, whooping cough and pellagra are also very important. There was much relapsing fever when typhus was epidemic, but there is not much now. There have been a few cases of plague in the sea-coast cities."

Jugo-Slavia, which includes Serbia, has again been attacked by typhus, due to the re-introduction of Russian refugees; but inasmuch as virtually everyone now alive in Serbia had typhus in 1915, a considerable degree of immunity was doubtless developed. Moreover, disinfecting stations are now being operated on the frontiers.

This is the line of defense which Europe has against typhus and its attendant scourges.

Rational Organotherapy

Endocrine Imbalance in the Feeble-minded.—At the outset of his discussion of his subject, Raeder (*Jour. A. M. A.*, Aug. 21, 1920) points out that the close relationship that exists between the internal secretions and the central nervous system has long been known. The fine changes of temperament associated with the early stages of pregnancy, the varying neurotic conditions, from slight unrest to grave neurasthenia, that result from a dysthyreosis, is common knowledge of the observant internist and the trained neuropsychiatrist. So impressed were the ancients with the relation of the generative and gonadal influences on the mentality that they regarded the seat of hysteria in the uterus and named it accordingly. Cretinism is an example of a recognized endocrinopathy. The constant association of the athyrea with the marked hypophrenia and microsomia, disproportionate tissue growth and other characteristics stamp it as a frank ductless gland

disease. The marked resemblance of certain factors in other kinds of feeble-mindedness with developmental anomalies, uneven growth rate, and various general and special tissue changes to the cretinic hypophrenia, has shown the desirability of further information in regard to the endocrinous factors in feeble-mindedness in general.

From the results of careful experimentation in physiology and biochemistry, and accurate clinical observation verified by pathologic study both during life and after death modern scientific opinion is agreed that the development and growth of the animal organism is regulated to a great extent by definite and potent highly complex chemical substances called hormones, the internal secretions of the ductless glands. A constant change in the chemical balance occurs with the progressive periods of growth, more or less independent from the daily or continuous physiochemical balancing of the metabolic functions of the cytoplasm constituting the immediate life.

Besides this hormonal or chemical connection or interrelation between the various parts of the body we have another system which binds the parts together, namely, the neuron or nervous system. It is by a smooth and well-ordered interworking of the neuron and hormonal connecting systems that a being is kept in normal poise. An interruption of the nervous or electrical control, or a disproportion between the various elementary substances or internal secretions forming the chemical combining system, or an altered condition of one or more of the constituent hormones, will destroy the balance between the two systems and result in an abnormal or pathologic state.

The author concludes his paper as follows:

1. The evidence of gland changes observed in these cases by routine examination methods, clinical and post mortem, without particular reference to endocrinology, is so constant and multifarious that we cannot but regard them most seriously. There were gland changes of one sort or another in 74 per cent. of cases. Marked gland changes occurred in 21 per cent.

2. With the constant and characteristic bony and soft tissue changes microsomia, lowered resistance to infection, poor circulation, loose jointedness, and changes in

the glands of internal secretion, Mongolian idiocy bids fair to be founded on an endocrine pathology.

3. The internal secretions begin to exert their influence early in the life of the organism. It is known that permanent adjustments of the other glands and tissues follow on the absence or dysfunction of one gland or set of glands. In order to avoid such permanent changes as infantilism, dwarfism, acromegaly, microcephaly and feeble-mindedness, it is imperative that these conditions be recognized and remedied by supplying the deficient hormone or inhibiting the hyperfunction of a gland early in the course of the disease. After permanent adjustments have formed, improvement is difficult; with early treatment, results are often little short of marvelous.

4. Much of the finer pathology of the ductless glands is concerned with biochemical reactions. Further studies of feeble-mindedness by physiochemical and roentgenologic research would no doubt throw more light on this obscure field.

Hypothyroidism.—In his comprehensive article on thyroid deficiency, Thornton (*Prac. Med. and Surg.*, Oct., 1920) states that the thyroid certainly deserves the distinction of being called the "autocrat" of the endocrine system. It holds control over body development as shown by the malformation of the cretin, also over mental development and activity, its absence meaning imbecility and its deficiency a lack of mental activity and balance. It likewise holds control over sex development and sex function. Its absence meaning infantilism; its deficiency, impotence and at times sterility, probably having a correlation with the essential sex glands. It has to do with nutrition as to the final preparation of albumens for assimilation and its influence over carbohydrate metabolism is now engaging the attention of biologic chemists. It facilitates excretion by oxidation of the end products of metabolism.

The consequences of absence or deficiency of the thyroid are, as would be expected, malassimilation, retarded elimination, infiltration of the integument and various parenchyma with the products of misdirected metabolism and incomplete oxidation.

The predisposing causes of hypothyroidism are: heredity, age, sex locality. The direct causes are: toxemia, disturbed correlation with other endocrine secretions, and again heredity, which may act either as a predisposing or exciting cause.

This condition as most other inherent conditions has yet to be worked out. Acting as a direct cause, it probably plays a frequent rôle in cretinism, because of the lack of homostimulation of the thyroid hormone in the circulation of the sub-thyroid mother. The ages at which it most frequently occurs are the ages corresponding to sex changes as puberty and the climacteric. It is much more common in the female than in the male—about six to one in the major form and in the minor form the ratio is much greater. Statisticians tell us that cretinism is more common in female than male children. No reason for this is assigned. The localities in which it most frequently occurs are those most subject to exophthalmic goiter and may sometimes occur as the result of retrograde changes therefrom.

Relation of the Pulse Rate and Basal Metabolism in Hyperthyroidism.

—In studying 496 basal metabolism determinations on 154 patients with hyperthyroidism. Sturgis and Tompkins (*Archives of Internal Medicine*, Oct., 1920) found that there was a tachycardia of 90 or more to the minute, associated with a basal metabolism of plus 15 per cent. or more in all but 16 per cent. In seventy instances when the metabolism fell to normal there was a simultaneous fall in pulse rate in 78 per cent. to below 90. In fifty-two patients on whom a number of metabolism determinations were made, the pulse rate gave an accurate idea of the course of the disease as compared to the basal metabolism in 85 per cent. In a series of 106 hospital patients with various diagnoses and normal basal metabolism only five had a heart rate of 90 or more to the minute. There is in general an interrelationship between the pulse rate and metabolism when a group of individuals are considered; that is, an extreme degree of tachycardia suggests a greatly increased metabolism while a slight tachycardia usually indicates a slight or moderate increase.

The fact that a pulse rate at complete rest below 90 per minute is seldom and below 80 per minute is rarely associated with an increase in metabolism Sturgis and Tompkins believe to be of practical importance in the recognition of the large group of nervous patients who have symptoms similar to those occurring in hyperthyroidism.

What is the Fatal Dose of Epinephrin?

—Fischer (*Munchener medizinische Wochenschrift*, July 23, 1920) reports a case in which, by mistake of a nurse, in place of the usual 1 per cent. procainepinephrin solution, 10 c. c. of 1:1,000 solution of epinephrin were injected into the skin and muscle of the leg of a man of 35 in connection with an operation for bone fistula from a gunshot wound. The aim was to block the peroneal nerve at the head of the fibula and the tibial nerve above the ankle. Anguish followed the injection, with severe pain in the neck and back of the head, and palpitation of the heart. The pupils dilated and contracted, and in about six minutes death ensued, with manifestations of heart failure. During this six-minute interval the pulse was not perceptible to the finger. Autopsy several days later revealed status thymolymphaticus but no valvular lesions. There was no evidence that the epinephrin had been injected directly into the blood stream. The author was personally convinced that it was a case of epinephrin poisoning, but in view of the pathologic condition of the thymus he felt compelled in his decision to take an indefinite attitude. The dilatation of the pupils, together with the pain in the head and the imperceptible pulse pointed to epinephrin poisoning, a general spasm of the vessels with consequent anemia of the brain. He, therefore, recommends caution as to the size of the single dose, but adds that, owing to the transient effect of epinephrin, the total daily dose need not be so carefully controlled.

Blood Sugar Tolerance as an Index in the Early Diagnosis and Roentgen Treatment of Hyperthyroidism.

—Wilson (*The Journal of Laboratory and Clinical Medicine*, Aug., 1920) states that the blood sugar tolerance as an aid in the early diagnosis of hyperthyroidism cannot be mini-

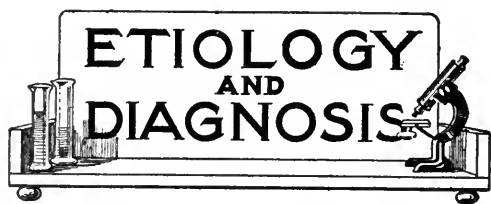
mized, and is most valuable as an index to the degree of toxicity brought about by increased thyroid secretion. This latter fact is forcibly demonstrated by the return to normal of the blood sugar tolerance in individuals showing an abnormal curve after series of roentgen-ray treatments.

Wilson concludes his article as follows:

The blood sugar tolerance test is of distinct importance in the early diagnosis of hyperthyroidism. That seemingly advanced cases of hyperthyroidism will respond but moderately to roentgen therapy, as shown by the blood sugar tolerance test. An abnormal blood sugar tolerance curve when due to hyperthyroidism will tend to approach the normal under roentgen therapy, indicating that excessive toxic secretion is lessened.

Clinical manifestations of hyperthyroidism may be lessened, but an abnormal blood sugar tolerance curve may exist after series of roentgen treatments.

The blood sugar tolerance curve is an index to thyroid hypersecretion in those cases in which toxic secretion has manifested itself by a decreased glucose tolerance.



Schick Test and Permanent Immunization Against Diphtheria.—Bauer (*Therapeutic Gazette*, July 15, 1920) points out that the Schick test is a test that determines by a local reaction, or the absence thereof, whether an individual is or is not susceptible to diphtheria. To be more precise, it determines negatively whether an individual has at least 0.1 unit of natural diphtheria antitoxin in each c. c. of blood, or positively has less than 0.1 unit, or none at all, in each c. c. of blood. A person who has 0.1 unit to each c. c. of blood has quite sufficient to protect against an attack of diphtheria. This has been verified from the clinical and laboratory standpoint by von Behring, Park, Rober, and others. That the Schick test actually demonstrates this arbitrary dividing line between susceptibles and non-susceptibles can be demonstrated by correlating the Schick test and the actual blood examination in the same individuals.

Its greatest usefulness is in connection with some method of permanent immunization against diphtheria, not necessarily bearing any

relation to any case or epidemic of diphtheria.

With that object in view, Schick testing has been associated with the use of toxin-antitoxin, which we have come to believe is a successful agent for developing a permanent immunity against diphtheria.

Park and Zingher table arranged according to age:

Age.	Susceptible.
Under 3 months	15 per cent.
3 to 6 months	30 per cent.
6 months to 1 year	60 per cent.
1 to 2 years	70 per cent.
2 to 3 years	60 per cent.
3 to 5 years	40 per cent.
5 to 10 years	30 per cent.
10 to 20 years	20 per cent.
Over 20 years	12 per cent.

Since the younger children are more susceptible to diphtheria, and give no reaction to toxin-antitoxin, the sooner they are actively immunized the better.

As a result of these investigations we have been led to believe that the proper way to meet the diphtheria problem is by the universal injection of all babies under two years of age with toxin-antitoxin—the earlier the better.

Etiology of Eczema.—Hazen (*Arch. Derm. and Syphil.*, June, 1920) says: "Eczema, while giving a definite clinical picture, is in reality due to the following causes: external irritation, external infection, local predisposition of the tissues, disturbances of the vegetative nervous system, disturbed food assimilation and urticaria, the latter probably being due to a protein hypersusceptibility."

The day will come when the word "eczema" will no longer be used, just as the word "rheumatism" is now passing from usage. There is no more relationship between a dermatitis due to external irritation and due to vagotonia than there is between a gonorrheal arthritis and a syphilitic one.

As clinical entities now well established the following may be suggested: dermatitis due to external irritation; vagotonic dermatitis; urticarial dermatitis and dermatitis due to disturbed food assimilation (the eczema of young children). None of these conditions should be classified as eczema, as this only results in confusion and a failure to discover the cause.

The Diagnosis of Chronic Gall-Bladder Pathologies.—The diagnosis of gall-bladder pathologies is not difficult, so states Bassler in the May, 1920, issue of the *Medical Record*. Naturally the less the pathology the fewer and less distinctive the symptoms, the more the difficulty, and the greater the proportion of cases that are missed. In it all, however, the clinical history and the objective and subjective symptoms are of the most value and the indirect means distinctly less so, altho they should not be neglected because occasionally

they will give a finding that will be most helpful. What perhaps is the most useful of all is the development of that so-called "sixth sense" that comes from ample experience and close study of the clinical aspects of the cases in which each case, if carefully studied, does more eventually toward diagnostic acumen than any other means I know of.

Etiology of Pain.—Dowd (*Medical Council*, July, 1920) points out that the cause of pain very obviously covers a very extensive field, one that could scarcely be dealt with in all its detail in any one medical article, strive as the writer would to do so.

Pain has its origin in the brain cells; there is no doubt that a pain center exists. The location of pain at any specific spot is merely a reflex manifestation of where the cause is located. Where pain is indefinitely located the cause is rarely if ever found at the seat of uneasiness, but is in the brain cells.

Pain is a wise provision of nature, it sounds an alarm of trouble that is present or about to develop.

Pain is due to injury, disease, nerve-cell hunger or irritation. Of the first two, there is generally little or no questioning, the cause is evident to the naked eye.

Regarding the latter conditions we find the following opinions from eminent authorities:

E. M. Romberg, Prof. Clinical Medicine, University of Munich, "Neuralgia is the prayer of the nerves for food."

Prof. F. E. Anstead, London, Eng., "Neuralgia is the profanity of the nerve-cells on account of bad nutrition."

Nerves cannot speak, their word for hunger is pain, an opinion held by the writer for years. Certain individuals feel pain more acutely than others. It is more acutely felt in the refined than the coarse individual; Irish feel pain more acutely than the Scotch, the Jew than the Gentile.

The successful treatment of pain must be looked at from one standpoint, ascertain the cause and remove it when possible. The cause is viewed from two aspects: external, or where we can see or ascertain it from digital examination, as in injury or disease, and central where we must look to the nerve-cells, be the condition due to irritation, hunger or specific poison.

Opiates will always hold first place in injury or disease, but it will often be found that even after nature has repaired an injury, or disease has ceased to exist, pain may continue; in these conditions a central cause should be looked for.

In the central variety one of two causes exist, either an irritation or a nerve-cell starvation.

Ascertaining which you may have to deal with is easily and quickly determined by aid of the phosphatometer. Using the second urine passed in the morning, fill the phosphatometer to U, add solution (Mag. Sulfate, ammonia

chloride, water of ammonia [10%] aa 1 oz., water 8 oz.) to S, thoroly mix by inverting tube and set aside for ten minutes.

If the precipitate goes below N. P., or does not sink and is light and fluffy, nerve-cell nourishment is below normal, and no matter what condition be under treatment, little or no result will be forthcoming until nutrition is supplied. (This is often the one cause of delayed resolution in flesh or bone.)

Where the precipitate registers plus, above N. P., nerve-cell irritation is evident (this condition is practically always found in high blood pressure). If the condition be acute, of short duration, the best results are obtainable from sedatives, as the bromide of sodium in the elixir valerinate of ammonia. If it is chronic, and especially as is observed in high blood pressure, no remedy will act as will the bromide of gold and arsenic. Phosphates found in freshly-passed urine, or precipitated on heating are not the alkaline phosphates which show nerve-cell metabolism. These conditions must not be confused as they bear absolutely no relation to each other.



Dissolved Sulphur in the Treatment of Psoriasis.—Louis Bory, who has been studying the remarkable action of injectable sulphur in psoriasis, in a recent issue of *Medical Press and Circular*, gives a modification of his original formula and now uses the following:

Pure precipitated sulphur.....	1 gr.
Guaiacol	5 gr.
Camphor	10 gr.
Eucalyptol	20 gr.
Sesame Oil q. s. to make 100 c. c.	

He begins with injections of 6 c. c. as a minimum dose and 10 c. c. as a maximum, an average dose being 8 c. c. The febrile reaction is seldom well marked, and is not more durable than with the infinitesimal doses originally employed. The initial treatment of the outbreak of psoriasis comprises four or five injections, at a week's interval. He usually waits until after the second injection and until the eruptive elements have begun to pale before inaugurating the local treatment. The most effective local treatment is to paint the elements with coal tar every other day. With this treatment two injections of sulphur will often suffice, and nearly all psoriasis patients are discharged from the hospital within three weeks.

Treatment of Osteomyelitis.—Local foci of infection, such as abscesses of tonsils or teeth

or sinuses, Ochsner and Crile (*Surg., Gynec. and Obstet.*, Sept., 1920) state, should invariably be eliminated at once on undertaking the treatment of patients suffering from osteomyelitis. The operation should consist in splitting the periosteum for a distance of from 2 to 5 cm. beyond the area of pain on pressure in the bone in each direction, and the periosteum should be loosened from the bone for a distance of from 1 to 2 cm. on each side of the incision. In extremely severe cases this should be the extent of the primary operation. In less severe cases ultimate healing can be hastened by careful opening of medullary canal at the point previously located because of pain on pressure. Moist hot antiseptic dressings with fixation of the extremity and with the use of electric light treatment increase the comfort and facilitate healing.

Treatment of Ringworm.—W. P. Elford (*Brit. Med. Jour.*, June 26, 1920) says he has successfully dealt with over sixty cases of tinea tonsurans, the majority of cases being cured within a month.

As a preliminary step the affected area of the scalp must be shaved and cleaned with liquid ethereal soap. The part is then gently and carefully rubbed with a piece of lint which has been dipped in liquor potassae and dried with a piece of cotton-wool. Next the part is sprayed with ethyl-chloride for about thirty seconds and allowed to dry; it is then painted with tr. iodi mitis. It is unnecessary to repeat the shaving and cleansing with ethereal soap, but the remainder of the procedure should be carried out morning and evening for the first three days and once daily during the subsequent four or five days.

During this time a mild folliculitis occurs, and as a result the infected hairs fall out. Usually a week of such treatment is sufficient to effect a cure, after which it is only necessary to rub ammoniated mercury ointment into the scalp twice daily, keeping the case under observation for about a fortnight or three weeks.

As a result the folliculitis quickly subsides and healthy hairs soon make their appearance. Other varieties of ringworm can be quickly cured by like treatment.

Hypodermic Injections of Milk in the Treatment of Intolerance of Milk in Nurlings.—Weill (*Journ. des Praticiens*, Sept. 20, 1920, and *La Médecine*, Aug., 1920) first recommended this method of treatment at the beginning of last year. It has been tried since then by many others with a good deal of success, while more than a year's further experience, mainly in the Children's Clinic at Lyons, of which he is head, has convinced Weill of the advantage to be derived in many cases from its use.

It is applied particularly to infants suffering from digestive intolerance of milk, with frequent vomiting, diarrhea, constipation and a tendency to convulsions. These symptoms soon

show themselves, and occur as much in breast-fed infants as in those fed with cow's milk. The treatment is of the simplest. The child is given hypodermic injections of the same milk to which it is intolerant. From 5 to 10 c. c. are given by hypodermic injection, and one is usually enough. In some cases a second or a third injection is given, with an interval of two days. The mother's milk may be used raw or boiled, but cow's milk must be boiled or heated to 110° C. for 20 minutes.

The injection is followed by a slight reaction and a slight rise of temperature. The results are remarkable; the child stops crying, and the restlessness, vomiting and diarrhea cease, and these effects are permanent.

Opinions are still divided about the effect of these injections. Variot is skeptical about them. Ganjoux, of Montpellier, has made observations upon breast-fed and bottle-fed babies. In 12 breast-fed babies, for whom all other methods of treatment had failed of effect, he injected aseptic human milk or sterilized cow's milk, giving 1 c. c. on the first day, 2 c. c. on the second, and 5 c. c. on the third day. In eight cases the vomiting ceased; in three a small abscess hindered the cure, and in one the result was quite negative.

In bottle-fed babies he made a distinction between children below and above five months. Below five months the vomiting was associated with diarrhea. In 16 out of 28 cases, an injection of 1 c. c. on the first day, followed by one each on the two next days, the vomiting ceased entirely. In the remaining 12 cases, only in six was the vomiting stopped.

For children over five months, the results were equally encouraging. These cases were submitted for a week to a diet free from milk. On the third to the seventh day the first series of injections was begun: one-half c. c. on the first day, 1 c. c. on the second, and 2 c. c. on the third. A small feed, correctly prepared, was then given by bottle, and as a rule there was no further vomiting. If there was a return, a new series of injections was given at once, and this treatment always proved effectual.

Weill insists upon a proper choice of patients, who should be those presenting an habitual intolerance for milk, and upon the use of fresh milk heated for 25 minutes in a *bain-marie*.

Treatment of Itch by Alcoholic Solution of Naphthol-B.—With the view of making the treatment simpler and avoiding the long and painful mechanical measures adopted to bring the parasitocidal agent in contact with its intended object, Dr. Horia Sloboziano (*Gazette des Hôpitaux*, Feb. 3, 1920) has been using alcohol as the vehicle. This has the advantage of penetrating into the folds of the skin, into the tracks of the sarcoptes, into the spaces and into the intercellular interstices of the epidermis. It dissolves the fats in the capillary spaces, and is absorbed into those. In a series of observations made since 1916, the alcoholic solution of naphthol-B has been used. It kills

the parasite, soaks into the skin and prevents further infection of all kinds. Naphthol is very soluble in alcohol, which should be of a strength higher than 90°. Dilute alcohol penetrates but slightly and practically does not yield good results. Experiments on the osmotic properties of alcohol showed that at a strength of 94° and upwards it has a considerable power of penetration.

The solution of naphthol in alcohol has a yellowish color, and unless kept in a well-stoppered bottle, alters after a time. Its odor is that of naphthol, much less strong and disagreeable than that of sulphur. For an adult, the proportion of naphthol for use should be 7-10 per cent., according to the state of the skin. The solution can always be diluted to 5 per cent. for patients with deep lesions, produced by scratching, in whom the more concentrated solution would cause pain. When painted on the skin it leaves a whitish layer of naphthol.

The itching usually disappears after the first application, because naphthol has an anesthetic effect; this may be increased, if necessary, by adding 1 per cent. of menthol.

The lotion is applied to the skin, which should be dry, by means of a swab moistened in it, and this is passed carefully over the whole surface of the skin without rubbing, taking region by region. The dilute solution will be required for the scrotum. A smarting sensation is produced, particularly if there has been much scratching, but this soon passes off as the alcohol evaporates. Baths are not necessary because the removal of the fat by soap hinders the penetration of the alcohol.

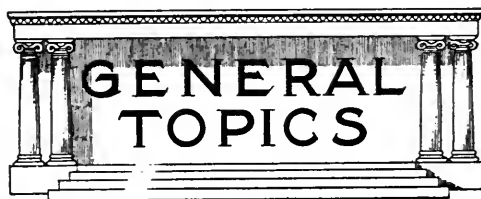
The skin should be well washed over in this way twice during each day for two or three days. It tolerates the application very well, and no irritation of any kind has been observed in the whole series.

Treatment of Gangrene of the Lung with Neo-Arsphenamin.—Stepp (*Therapeutische Halbmonatshefte*, Mar. 15, 1920) reviews the literature on gangrene of lung and finds that before operative treatment was introduced in 1901 the mortality under medical treatment was very high, possibly from 75 to 80 per cent. Under operative treatment the mortality has been reduced to 32.3 per cent. or, deducting the far advanced, hopeless cases, to 26.8 per cent. He has recently found neo-arsphenamin a very useful remedy in this disease. Acute cases, in which the gangrene was not preceded by pulmonary disease of long standing, seem to be best adapted to such treatment. The dosage varies from 0.3 to 0.6 gm. If the pus is not coughed up or if empyema is a complication, these conditions may possibly be regarded as contraindications to neo-arsphenamin treatment. More detailed knowledge of the indications and of the treatment in general will have to be gained by more extended experience. The gangrene followed pneumonia in one of the three cases reported; spirilla were found

in the sputum in one case. In one man of 40 the sputum dropped from 225 c. c. to 0 in three days, the sixth day after the injection by the vein of 0.6 gm. neo-arsphenamin.

Treatment of Enlarged Lymph Glands.—At a recent meeting of the Société Médicale des Hôpitaux, in Paris (*Gaz. des Hôp.*, May 22), Dufour recommended, for the treatment of enlarged lymph glands, due to bacillary invasion, the oral administration of tincture of iodine in milk; a dose of 120 drops being ordered at first, which is diminished gradually. This treatment is, in his opinion, the one of selection, altho radiotherapy may be associated with it. However, this is not necessary. If pus is present, it should be evacuated by small punctures by means of a bistoury, in such a manner as to leave only very small scars.

In the course of several years, Doctor Dufour has treated enlarged cervical glands in about fifteen patients and he demonstrated, before the society, two persons who had been healed, one and three years ago respectively, despite the enormous cervical swelling that had existed at the beginning of the treatment.



Acidosis.—Jonas claims (*Therapeutic Gazette*, July 15, 1920) that the ability of the blood to maintain its constant reaction and as a result a constant H-ion concentration is due to the presence of two weak acids, phosphoric and carbonic, and their sodium salts, chief of which is sodium bicarbonate. The normal bicarbonates of the blood yield from 60 to 70 vol. per cent. of carbon dioxide and any reduced yield is due to accumulation of acids. This has led Van Slyke to define acidosis as a decrease in the bicarbonate content of the blood.

When a foreign acid enters the blood (endogenous or exogenous) it unites with the sodium bicarbonate to form a neutral salt and carbon dioxide is liberated. The greater the amount of foreign acid, the greater is the demand on the alkaline reserve with resulting reduction in the blood bicarbonate. The bicarbonate and H-ion concentrations of the blood are constant in normal individuals and the latter increases only in the late stage of acidosis when the supply of bicarbonate is greatly reduced.

The H-ion concentration bears a very direct relationship to the ratio of the carbon dioxide existing in the form of carbonic acid and that in the form of sodium bicarbonate. This ratio has been found to be 1:20 in normal individuals and changes only when the sodium bicarbonate is greatly reduced. This is maintained thru

pulmonary ventilation and as long as it remains at 1:20 we have a compensated acidosis no matter how low the bicarbonate may be. Pulmonary failure brings about an uncompensated acidosis and increased H-ion concentration.

The alveolar carbon dioxide tension and the blood carbon dioxide content are both tests for acidosis.

Rapid and deep breathing, Kussmaul breathing, is nature's method of overcoming an increased H-ion concentration which has resulted from carbon dioxide accumulation, in cases of acidosis. The other way of exit is by way of the kidneys. Normally 4 gms. of soda bicarbonate will alkalize an acid urine; failure to do so diagnoses a case of acidosis (Sellard's test). This test is safe only with normal kidney elimination; in other cases carbon dioxide determinations must be resorted to.

There are two types of acidosis, that arising from failure of kidney elimination or retention-acidosis seen chiefly in glomerular nephritis. The second type is metabolic and due either to incomplete combustion of fat as in starvation or inability to utilize carbohydrates as in diabetes. This second type is found also in starvation, cyclic vomiting and undernutrition of all types.

There is also the acidosis of shock and a mild acidosis is found in eclampsia, acute infections and decompensations, etc.

Spots and Stains.—The most frequent stains are those caused by tincture of iodine. Of course all nurses know that alcohol will remove these, but it isn't so efficient in removing them from clothing; for that purpose, ammonia water is best, or a saturated solution of sodium hyposulphite (Nolen, *The Amer. Jour. of Nurs.*, Sept., 1920). The stains can be removed from paper with ammonia water, or with a blotter soaked in a solution of the sodium hyposulphite. To remove silver nitrate stains from the fingers, mix one ounce of sodium sulphite and half an ounce of chloride of lime with two ounces of water; use with a nail brush. To remove the stains from clothes, prepare a solution containing 45 grains of bichloride of mercury, 45 grains of ammonium chloride and distilled water to make one ounce. Keep this in a safe place, as it is very poisonous.

The picric acid stains spoken of in the first part of this article can be removed from the clothing or hands with a paste made of lithium carbonate and water.

Blood stains can be obliterated from the clothing and other articles by preparing common starch, as for laundry use, and applying over the spot.

Ordinary writing ink stains can usually be eradicated by lemon juice applied to the spots. If this fails, use a solution of oxalic acid, or equal parts of finely powdered citric acid and cream of tartar, applied with hot water.

Indelible ink stains on clothing can be removed by touching the places with a brush dipped in a solution of potassium cyanide, then

washing the fabric with water, but remember that the potassium cyanide is a deadly poison. The stains can be taken off the fingers with ammonia water, or by painting them with tincture of iodine, then removing this with ammonia water or a solution of sodium hyposulphite.

Red ink can be easily removed by alcohol rendered acid with a little nitric acid.

Stains caused by solutions containing iron, such as tincture of iron chloride or Basham's mixture, can be taken out with a solution of citric acid. For iron rust stains, use salt and lemon juice.

Chemists as Allies of Physicians.—Chemists as allies of doctors of medicine was the theme of the address, "Chemistry's Contribution to the Life Sciences," delivered recently by Dr. A. S. Loevenhart, of the University of Wisconsin, before the general meeting of the American Chemical Society held at the Congress Hotel.

Dr. Loevenhart declared that every great advance which has been made in chemistry immediately reflects itself in medicine and that it is inconceivable that any great advance can be made in chemistry without medicine being benefited thereby. As illustrative, he referred to the effect of the discovery of oxygen and the elucidation of the nature of combustion on medical thought.

In tracing out the more recent developments in biologic oxidization, Dr. Loevenhart mentioned the great interest now manifested concerning organic peroxide, and indicated the need of more pure chemical work on this class of substances. Comparatively few organic peroxides have been prepared and comparatively little work has been done on the method of producing these substances. He asserted that the similarity between the oxidizing enzymes and the organic peroxide was noticeable, and that these substances are of interest also as antiseptics. The oxidizing antiseptics include the hypochlorites, and the chloramines proved to be the most useful ones during the war, and Dr. Loevenhart stated that he believed that the ideal antiseptic to be one which contains active oxygen rather than one whose oxidizing activity is due to the presence of active chlorine in the molecule. The speaker stated that certain oxidizing substances have the property of stimulating the production of antibodies, also of stimulating phagocytosis and of lessening the local inflammatory reaction. (Work of Hektoen, Arkin and Amberg.)

Dr. Loevenhart then discussed the effect of the isolation of the alkaloids in the first half of the last century on medicine. He also traced the subsequent history of the elucidation of the constitution of the alkaloids and the rise of chemotherapy. He referred very briefly to the work of Ehrlich and his co-workers and the production of arsphenamine and nearsphenamine and referred to the work of Drs. Jacobs and Heidelberger on the chemical side and of Drs. Brown and Pearse on the biologic side, at the Rockefeller Institute.

"Chemotherapy," he continued, "constitutes one of the greatest fields of endeavor for chemistry and medicine, and for success in this field it is essential that physicians and chemists work in the closest possible harmony and cooperation."

Dr. Loevenhart asserted that the success of the research work in the chemical warfare service was due to such cooperation between chemists and physicians. As a result we know more about the biologic properties of certain groups of substances used for the destruction of human life than we knew about the action of substances which have been used for 2,000 years in the alleviation of human suffering. Finally, the speaker dwelt upon the importance for the advance of medicine of chemists entering the field of medicine. "It is usually impossible," he concluded, "to superimpose chemical training upon biologic training, but easy to accomplish the reverse. The medical curriculum is at the present so filled that we must be satisfied for the present with the bare fundamental training in chemistry which the average medical student receives. However, for those who are going into medicine in the future with the set purpose of advancing the subject we should strongly recommend that they first receive a professional training in either physics or chemistry."

vinced of the cause, it is culpable negligence to evade the teaching of prevention simply because the obstacles to a radical change in diet appear too great. The stoutest wall will give way before constant battering, and so with this question of food and dental caries. Dentists may be appointed to schools, to the army, to the navy, to maternity centers, but little headway will be made towards the banishment of dental disease unless the simple rules of prevention are inculcated. It is, indeed, a stigma to medicine that the most prevalent disease of the human race is the most easily preventable. If the Ministry of Health will concentrate on teaching prevention by means of popular lectures, illustrated with lantern-slides and by booklets written in simple language, in the course of two generations we shall see an end to preventable dental disease, and there will be but little need for an elaborate public dental service.

NEWS NOTES AND ANNOUNCEMENTS

The Problem of Dental Disease.—The deplorable state of the nation's teeth is only too well known, and health authorities are busily engaged in promoting schemes for treatment, so states a writer in *The Lancet*, August 21, 1920. At the recent meeting of the British Dental Association at Bournemouth, the chief interest centered around this perplexed problem of the dental needs of the public. Dr. R. A. Lyster, the medical officer for Hampshire, pleaded in eloquent terms for further research into dental disease, and from his remarks as reported it would seem that the fundamental causes of dental disease are unknown and that it is therefore useless to lay down definite rules for prevention. This statement, if it gains currency, will tend to undermine belief in the excellent work that has been done on the etiology of dental disease and on which the present rules for prevention of dental disease are based. These rules have already stood the test of time and produced excellent results, and have abundantly confirmed the correctness of the views held on causation. Speaking in a general sense, dental caries is due to the altered character of the carbohydrate diet and the enormous consumption of sugars, especially those of the monosaccharide group. In the case of periodontal disease also it is clear that the lodgment of food in the interdental spaces is a prominent factor. Mr. R. Lindsay in his public lecture admitted that the remedy was largely concerned with food, but considered that to ban any common foodstuff was outside the sphere of practical politics in the question of the prevention of dental disease. But surely, if one is con-

Warning Against "Fake" Orange Beverages.—The Bureau of Chemistry, United States Department of Agriculture, under the Pure Food and Drug Act, has instituted prosecutions against the misbranding of orange beverages. Cases are now in the Federal courts and, pending decision, the food officials charge that some firms are still using deceptive labels. It is alleged that mothers, in some instances, misled by the labels and other advertisements, are giving "fake" orange beverages to their children under the impression that they are following the orders of the physician. The Bureau of Chemistry has found that in most instances these beverages contain no orange juice, but are sweetened carbonated water, flavored with a little oil from the peel of the orange and artificially colored, and that they are lacking, therefore, in the organic acids and the vitamins which give medicinal value to the genuine orange juice.

Vienna Physicians Destitute.—Vienna is today battling for its very existence. The gay crowds of well-dressed people and elegant equipages which once thronged the magnificent Ring and the lovely Prater have long since vanished. The fine trees of the Wiener Wald have become victims of the woodchopper.

A recent dispatch to the *Musical Courier* says: "Vienna is the saddest city in the world. If one is soft hearted, it is difficult to repress the tears as one wanders thru its once brilliant streets. While one stops to greet a friend,

three beggars or more appeal to one's charity. And such beggars: ragged and haggard, emaciated, yellow creatures that once knew joy. As one rides thru the streets poor mothers with thin, paper-skinned babies look at one from the curb. Hands stretch out from everywhere."

A prominent New York banker, recently returned, says: "All that class (professional people) are left with absolutely nothing. All the time I was in Vienna I couldn't help feeling that I was living in a morgue. Beautiful streets, a beautiful opera house and the city beautifully kept—but nothing doing. It is terribly depressing."

Viennese physicians are in desperate straits. Their work must go on at all events, in an effort to combat the increasing mortality and alleviate the many ills of an undernourished population. But they cannot feed their little children with the scanty government ration, even when supplemented with their pitifully meager incomes.

The American Relief Committee for Sufferers in Austria, 261 Madison Ave., New York, of which Hon. Frederic Courtland Penfield, late American Ambassador to Austria-Hungary, is honorary chairman, has created a special fund for the relief of destitute Viennese physicians and surgeons.

Contributions may be made to Alvin W. Krech, President, Equitable Trust Company, 37 Wall St., New York City, Treasurer of the Committee.

All-America Conference on Venereal Diseases.—The recent announcement by the U. S. Public Health Service of its intention to hold an Institute, at which health officers and physicians will receive ten-day intensive courses in the latest and best methods of dealing with venereal diseases, is meeting with enthusiastic responses from State Boards of Health and other organizations and persons. A recent letter from the Indiana State Board says that Indiana cannot afford to miss the Institute and will send several official representatives, supplemented by many unofficial ones.

The Institute will open on November 22 for 10 days and will be immediately followed on Dec. 6 by a six-day session of the great All-America Conference, at which the most eminent physicians, administrators and other experts of the western hemisphere will discuss the best ways of fighting the twin diseases.

Transporting the Sick and Wounded by Aeroplane.—A new design of aeroplane ambulance, with a fuselage designed especially for the transportation of the sick and wounded, was recently completed at the Air Service Experimental Station, McCook Field, Dayton, Ohio. The basis for the new ambulance is the DH-4 type of aeroplane, but many modifications have been made to increase its stability and safety. The depth of the fuselage behind the

pilot's seat has been increased, and this space has been divided into upper and lower compartments, each of which provides space for one litter patient. Above the upper compartment is a cockpit provided with a portable seat for the use of the medical officer. On its trial flight, the ambulance traveled 130 miles in 65 minutes and made the return trip in 105 minutes. Several ambulances of the new type are being constructed for use on the Mexican border.

A New Department in Medical Review of Reviews.—Beginning with the January issue, the *Medical Review of Reviews* of New York will inaugurate a new department for the advancement of the science of Chemo-Therapy.

In order to develop the theories as set forth by the various investigators who have thus far entered this field, we invite the cooperation of all physicians, chemists, bacteriologists and pharmacologists who are doing or contemplate doing work along these lines.

It is our purpose to stimulate a more thorough fundamental knowledge of this subject, which so far is little known to a great number of practicing physicians.

Believing Chemo-Therapy to be a rich field for the development of products of great therapeutic value, and that we have so far neglected to give it the importance that past researches would warrant, we are placing this department at the disposal of all those who may find an interest in the subject, as an open forum where contributions dealing with this science will be welcomed.

Coffee Drinking Increases.—According to figures compiled by the Bureau of Foreign and Domestic Commerce of the Department of Commerce more coffee was consumed in the United States during the year ended June 30 than in any previous year on record. The total coffee consumption in continental United States for that period was 1,358,000,000 pounds and the per capita consumption 12.7 pounds. This is a total increase of 399,000,000, and a per capita increase of 3.71 pounds over the preceding twelve months. It is estimated, on a basis of forty cups to the pound, that this increase is equivalent to sixteen billions of cups of coffee.

Treatment of Leprosy with Chaulmoogra Oil.—Success in the treatment of leprosy with an ethyl ester of chaulmoogra oil is announced by the United States Public Health Service after experiments on fifty-nine patients in the Hawaiian Islands. These have all recovered sufficiently to warrant their release and after freedom for over a year none has shown the slightest symptom of recurrence. The study was conducted by officers of the Public Health Service in cooperation with Prof. L. E. Dean, head of the chemical department of the College of Hawaii, who isolated the active constituents of the drug.

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Blue Sunday Considered from a Medical Viewpoint.—As a natural reaction to the tremendous activities during the period of war, one finds strong tendencies to restrict human activities in many directions. None, perhaps, will attract more attention than the movement to return to a type of Sunday somewhat resembling that existent during the height of the Blue Laws of recent generations.

Concerning the question as to which is the seventh day of the week, or the merits of the religious aspects of the controversy, medical men have nothing to add to the opinions of ministers. The importance of one day's rest in seven, from the physiologic and psychologic standpoint, is now admitted by everyone. From the standpoint of promoting the work of the world, it is immaterial which day of the week becomes the day of rest. The cycle of work and rest needs to be established, and has already gained a foothold in the industrial system of this country, for the most part represented by the acknowledgment of Sunday as that day in reference to religious traditions—and long established habit.

In connection with a day of rest there has been great stress placed upon the necessity for nervous relaxation, so that Sunday has taken on a recreative aspect which now appears to offend some members of the community. The importance of religious devotions is thoroly appreciated, and the

freedom of taxation of church property indicates the belief of the general public in the tremendous worth of the religious institution on communal life.

It is doubtful, however, whether setting apart Sunday entirely for purposes of religious devotion would instil in the community any greater degree of religious feeling or promote the public welfare to a larger extent than is possible under a régime which urges church attendance at some time during the day, and permits the remainder of the time to be devoted to such forms of recreation as may appeal to the individual. Certainly joyous contentment, physical exercise and enthusiasms, and passive amusements advance the well-being of individuals, and promote a communal morale of a sort more advantageous than that which is bound to follow a mandatory limitation of most outlets for activities. It is doubtful whether enforcing a system of self-restriction on a day of rest will suffice to encourage a religious attitude of mind.

The church as an institution possesses to a remarkable degree an attractive force which holds people to their highest responsibilities, not alone to the Creator but also to all mankind. The spirit of the Brotherhood of Man does not become effective thru an effort to restrain human liberties and to dictate the manner in which the hours not spent in religious devotion are to be occupied. The time actually spent in

churches is not long, but the effects thereof are powerful. Ecclesiastic domination of harmless methods of recreation has not proven itself effective or beneficial in the past, nor is it likely to possess greater advantage in the future. To seek to return to a system of sunless Sundays is unphysiologic and psychologically unsound.

Freedom of human expression within moral bounds is a safeguard of public morale and a powerful aid in the maintenance of public health. The crowd hazard in a place of amusement is no greater than in a house of worship. That there may be some iniquities in present day observance of the Sabbath is not improbable, but the remedy does not lie in destroying the human element of the day of rest under the guise of fostering the observance of the Lord's day.

When the prohibition amendment was passed, it was foreseen that there would be other attempts made to secure the reformation of this generation. The theoretic value of prohibition was great, however, in view of the conceded deleterious effects of the abuse of alcohol upon the race, and its manifest disastrous consequences as reflected in social and economic affairs. The practical enforcement of the prohibition law has varied greatly, dependent upon public opinion. One of the great weaknesses today lies in the permissive distribution of alcohol for sacramental purposes. Against this, thus far, there has been no great cry on the part of the Church, nor is the Church to be condemned for the derelictions in practice.

The leaders in the religious thought of today have not demanded a Blue Sunday nor is it likely that the weight of their judgment will be cast upon the side of those who

are determined to make Sunday the only legalized day of rest for religious purposes with restrictions upon the actions of all Americans regardless of religious convictions, or the needs of industrial organization for promoting the welfare of the country.

The attitude or sincerity of those who are advocating a Sunday of devotion and overshadowing gloom is not questioned, nor is there any question of their right to attempt to secure the regulation of the country in accordance with their ideas. It is essential, nevertheless, that those holding contrary opinions freely express them, that a full measure of the arguments against this reaction be expressed. Sunday should be one of the days of rest, a part of it properly spent in religious communion, and the rest of it rationally given over to familial life in such manner as individual wishes and interests may dictate. The Lord's Day may properly be regarded as man's day with the Lord, with each man determining how best he may express his thankfulness and strengthen himself for the work of the world. As a health measure little can be said to support the statements of those who wish to take the richest measure of joy and peace out of a day of rest, mental as well as physical, tho that day be Sunday.

Venereal Disease Institutes.—One of the most significant health institutes was held recently at Washington to consider venereal diseases and sex hygiene. The Institute was conducted by the United States Public Health Service in cooperation with the United States Interdepartmental Social Hygiene Board, and the American Social Hygiene Association. For twelve days nearly six hundred health officers, physi-

cians, nurses, social workers, and others interested in public health work devoted their attention to the many topics related to the control of venereal diseases as presented by a carefully selected faculty of men and women whose training and experience in social hygiene and related fields enabled them to present the subjects with authority. It is noteworthy that in addition to the physicians there were present police women, nurses, probation officers, Red Cross directors, general lecturers, and medical missionaries. This large and varied attendance is indicative of the tremendous impetus being given to the important question of the venereal diseases which, in addition, serves as the basis of an All America Conference to which delegates are to come from many countries grappling with the same problem. It is only by the cooperative efforts of a vast number of workers that the efforts to control venereal diseases will gain in effectiveness.

The control of venereal disease requires more than an improvement of therapeutic methods on the part of urologists. The entire field of human service must be combed for efficient workers who can bring to bear their points of view for the solution of this great racial problem. Psychology, economics, sociology, education and religion afford abundant opportunity for experimentation in methods and content that are applicable for the unfolding of a program which will secure the support of public opinion. Fundamentally, the program for the control of venereal diseases demands the establishment of a type of public support which thus far has not been created, owing to the general tendency to suppress the facts, and to continue the existence of the professional taboo upon sexual themes.

The increase of higher education among

women, and their advent into more active participation in industrial and political life have created a more aggressive interest into matters that deeply concern the welfare of their sex. The real gain in the advance of social hygiene has been due to the feminine awakening.

Venereal Disease Prevention and Control.—The most excellent devices utilized during the war period for the protection of the citizen soldiers, accomplished much for the lessening of venereal diseases in the Army and Navy. It was only natural that with the cessation of war some means should be sought to continue the results achieved thru the cooperation of large organizations in the interests of the young adult population returned to civil life, and to attack in an even more serious manner the problem as it affects the adolescents of the country. In furtherance of this desire to lessen the severity of the venereal menace it was natural that the United States Public Health Service should undertake the leadership. Under the stimulus of war enthusiasms numerous states have promptly organized boards of venereal disease control, and undertook to establish clinics under state auspices. After the armistice this impulse was diminished and the extension of state facilities progressed rapidly. To coordinate their various ideas, to pool their experiences, and to standardize methods of clinical facilities, educational material, exhibits and other parts of the machinery, numerous conferences will be required.

It is for this particular reason that the Public Health Service Institute possesses particular value. If now, individual states could hold similar institutes in the interests of their special intra-state problems, there would be a far greater benefit conferred not

merely thru the interchange of views upon a common problem, but because of the increase in the number of persons devoting time and thought to their consideration. The larger the group of citizens and professional workers, including physicians, that undertakes the cooperative attack upon venereal diseases, the more rapidly will benefits be noted, and the more valuable will be the accomplishments. As the federal service has lead the way for the nation, so should the state departments of health continue as leaders in formulating programs designed to secure the control of venereal diseases. Of all the groups in the community, the greatest responsibility rests upon the medical profession to align its representatives in the forefront of those endeavoring to war against venereal diseases.

The medical phases of venereal disease control are not isolated from the individual and racial problems that have seized the interest of lay groups of the population. Doctors as physicians, parents, citizens, health administrators and guardians of human welfare have a serious part to play as leaders in the combat against the forces of disease, delinquency, iniquity and racial degeneration that are grouped as the venereal diseases. They are the natural leaders of the institutes.

The Shortage of Nurses.—The increasing dependency of communities upon nurses has complicated the problem of securing an adequate supply of trained nurses for the care of the sick. In all sections of the country there are discussions concerning methods whereby the shortage of nurses can be met. The present problem is difficult to solve and is actually interfering with

the growth of hospital service, and creating much alarm among hospital administrators. Institutional nursing and private nursing no longer form the entire field for nursing service. The industrial nurse, the school nurse, the district nurse, the public health nurse, the social service nurse are increasing rapidly in number and depleting the ranks of capable trained nurses fundamentally provided for the care of the sick in home or hospital. Similarly, the nurse in the laboratory, the nurse anesthetist, the office nurse and the trained nurse called upon to work in connection with a large variety of non-medical institutions accentuate the need for increasing the number of women who require a varying experience in our training schools.

The status of nursing has altered. Today all trades and professions are open to women, and the profession of nursing must compete with all other branches of work to which women are admitted. Herein lies the economic and social basis of the shortage of nurses. Nurses are specializing in a negative way—some refusing to care for contagious diseases, obstetrical patients, victims of nervous diseases. This altered viewpoint of the nurse is not to be overlooked in considering the elements creating a relative shortage. The nurse has become selective because of her increased importance.

Physicians are vitally interested in nursing problems, and possess a peculiar responsibility with reference to their training and to the development of the types of nurses which are in demand for the different phases of public service. It is particularly necessary to realize, as is pointed out by J. B. Howland, *Boston Medical and Surgical Journal*, November 25, 1920, that the better trained nurses are not likely to be

available to the same extent as formerly for private duty with sufferers from chronic diseases and the temporary victims of minor illnesses, but the necessary care in these instances can properly be given by trained attendants. It is a waste of education to utilize highly trained nurses for such minor duties as are required in the average doctor's office, in the management of most chronic diseases, as laboratory assistants, as telephone operators, or even as anesthetists. Some readjustment in education is required in order that courses may be provided that will supply a basic, general training common to all forms of nursing, to which may be added a variety of special forms of training leading to the development of capability and some special, useful ability. In fact, our training schools for nurses now are obliged to consider the public needs in contemplating a nurse's curricula. They can no longer follow a traditional form of training mainly designed for caring for hospital patients or for private duty. Less technical knowledge is not opposed to effective nursing service. Furthermore, hospital training schools, as pointed out by Howland, must offer really educational courses with well planned lectures by paid and capable instructors.

The nurse in training is not to be considered as a domestic on the one hand or merely as a higher type of hospital servant whose vigor and mentality may be exploited in return for what is called a nurse's training. Nor is it fair that special hospitals devoted to consideration of particular fields of medicine should maintain training schools for general nursing, unless they possess ample cooperative connections to yield their pupils a reasonably sound training. Hospitals and physicians should aim to make

provision for nurses in training, and equally so for graduates. More freedom of time and larger opportunities for independence and growth are requisite in order to make the nursing field as attractive to young women as are other fields. A nurse may desire to live at home, be the mistress of all the hours not spent in actual work. She wishes to be treated not as an inferior to the medical staff but as a co-worker whose professional abilities are recognized as of high value, and as conferring upon her certain rights and privileges as a free agent in her profession. It is absolutely essential that our hospitals and the medical profession adjust their viewpoints to altered conditions in order that women may be naturally attracted to the nursing field as one of great dignity and larger usefulness with the assurance of a reasonable competence. The war has revealed to women their worth and power, and their potentials for human betterment.

In view of the shortage of nurses, certain provisions for nursing service require attention. The mere possession of wealth should not be sufficient reason for a single patient having three or four trained nurses in attendance, while other persons less blessed with large incomes are deprived of the service of a single nurse. Senile persons and those afflicted with chronic but harmless ailments should have no particular claim upon a trained nurse's service while victims of acute are suffering for the want of necessary nursing attention. In a large proportion of the diseases of childhood nursing service does not require a highly trained nurse, but the wants of the youngster may be thoroly satisfied by the attentions of an intelligent mother or some type of trained attendant.

During the period preceding the past

decade, the public had not thoroly awakened to the tremendous worth of nursing service, and in consequence, there had grown to be a certain degree of extravagance in nursing service. This must be curtailed, and home nursing is to be encouraged and promoted in every way possible in order to free the highly trained public servants for greater usefulness. In this connection it is obvious that there is a greater reason for stressing the rudiments of practical nursing in our educational systems in order that girls may be afforded an opportunity to acquire the basic knowledge essential for caring for familial health, and that will suffice to enable them as the mothers of the future to meet the ordinary nursing emergencies in their own homes.

The public health nurse with her large field of educational service offers a far more attractive future than does private nursing. This fact must be recognized, and in consequence, adjustments must be made in our training schools. Similarly, it is also necessary to carefully inquire into existent training courses with a view to determining whether the present length of time demanded is not too great; in how far courses of study must be altered with a view to cutting out the unessentials; and to what extent the hospitals and dispensaries may participate in promoting the development of courses for trained attendants capable of performing at least 75% of all the private nursing that is required, and certainly 50% of all the nursing that is necessary for hospital administration. The highest trained nurse has countless opportunities for the direction of her energies, and she must be free to yield the greatest results to the community.

The shortage of trained nurses is not to

be met thru a striving for the highly specialized trained nurse, but thru the promotion of a new type of nursing service which will be efficient and capable for the public wants. The name given to this type of worker is unimportant, save in so far that it be sufficiently distinguishing to prevent confusion between this type of worker and the specialized nurse now known as the registered nurse or the trained nurse. The fears of the old line Registered Nurses must be considered, but their attitude towards trained attendants must not dictate the policy for the community which seeks anxiously for some relief from the present shortage of nurses.

The public must not be allowed to suffer while a nursing group quibbles over terminology. The urgency of the moment is to attract women to training schools that will prepare them for an attractive and useful career of public service in attendance upon the sick in homes and hospitals.

The Cleveland Survey.—The value of surveys of various community resources is receiving increasingly greater recognition. A brief summary of the *Cleveland Hospital and Health Survey* directed by Dr. Haven Emerson indicates the advantage of investigations of this character.

Cleveland is a fairly typical city of the United States with an unusually fine community spirit, and with a meritorious tendency on the part of its organizations to unite in the promotion of civic health betterment. Sickness and deaths from communicable diseases are alleged to have caused the city a loss of \$25,000,000 during 1919. Two per cent. of the citizens are sick at all times from various causes, one-half of which are

judged to be preventable. It is, therefore, apparent what Cleveland has to gain from a study of its needs for improving its general health and its means of caring for those who are ill.

The range of the Survey bears witness to its breadth, and may serve as an index of the fields of investigation which properly might be covered in other communities equally interested in benefiting conditions of living. The subjects discussed include Environment and Sanitation, Public Health Service and Private Health Agencies, A Program for Child Health, Tuberculosis, Venereal Diseases, Mental Health, Industrial Medical Service, Professional Education and Practice, Nursing, Hospitals and Dispensaries. Each of these topics was investigated, studied, and appraised by a staff of individuals of unusual fitness, selected by reason of their special interest and experience. The complete results of the Survey are to be published in eleven volumes, and will then be available for the community as a basis of undertaking constructive operations to remedy the defects noted, and to further study the extensive plans proposed that are designed to correct existent handicaps to civic welfare. The benefits to be derived from this report are by no means limited to Cleveland, because the discussions will, undoubtedly, reflect the present attitude of modern medicine in the management of the various problems that have arisen and exist in cities of the size and type of Cleveland. Hence, the general public may be greatly benefited by the Cleveland Survey, if recourse is had to the information that has been gathered, and an attempt is made to utilize it in other communities.

It is by the gradual acquisition of data of this character that the public health move-

ment advances. There is no system depending upon office born theories unsubstantiated by human experience, but a militant attempt to secure facts acquired and demonstrable in and under real conditions of life as it exists, and environments as they are found in urban and rural conditions. Only a survey of living conditions can give rise to adequate information to justify the alteration of such conditions to promote better living. This, in short, is the function of a health survey, and it is in this dynamic field that it possesses its greatest vitality.

Purchasing Health.—According to statistics on Income Tax returns for the year ending December 31, 1918, approximately four and one-half million persons reported and paid a tax upon incomes above one thousand dollars. This bald statement carries with it an important message to the American people and indicates that even during a year of unnatural prosperity a considerable proportion of the citizenry is on an inadequate income basis. Even if one adds the self-supporting farmer group as not being completely represented among the income tax payers, there still remains more than five million families with an annual income of less than one thousand dollars per annum.

All recent studies of standards of income necessary for the maintenance of reasonable American conditions of living indicate that a family of five requires from twelve to sixteen hundred dollars per year. Accepting these figures as applicable merely for the years of high living costs, comparable to those existing in 1918, it is patent that from 20 to 25% of the population of the United States is very close to economic de-

pendency or is, indeed, unable to attain the economic independence which is essential for the maintenance of familial health, progress and comfort.

These figures are indicative of an important element in the general communal welfare. A large proportion of the public health problems arises from insufficient family income and the consequent lack of proper facilities for sanitary and hygienic living. In these few items are to be found part of the reason for the development of large dispensary systems, free hospitals, the need for much of the follow-up work incidental to improving the health of school children, a part of the basis of the exploitation of children at the sacrifice of their physical well-being, and some of the difficulties of promoting civic health in the midst of unfavorable home conditions. Vital as the income tax may be to maintaining the governmental machinery and to defraying the huge costs resulting from war and the military and naval establishments, there is equally an important phase of protection that evolves from this economic survey of annual incomes. Medical progress may be advanced thru the philanthropic activities of the two thousand tax payers with annual incomes of over one hundred and fifty thousand dollars. Sanitary progress and civic health are, however, retarded by the millions whose yearly incomes fail to reach the taxable mark. It is not possible nor is it necessarily desirable to procure an equal distribution of wealth. It is undeniable, however, that a more equable distribution of the results of physical and mental labor would create equalization of opportunity for higher standards of living. Public health is to gain far more from the elevation of low income groups and the increase in the number of families in the one to three thou-

sand dollar income class which furnished three million of the tax payers in 1918, than from the growth of annual income groups above ten thousand dollars who were represented in 1918 by approximately one hundred and sixty thousand tax payers.

While physicians are concerned very largely with economic problems relating to the welfare of their families, and a certain degree of class consciousness upon this subject has seized the profession, it is obvious that professional financial welfare is bound up in the economic success of the great mass of the community whose financial independence assures them the chance to secure medical attendance when indicated without resource to charitable institutions. Physicians prosper during times of national prosperity and suffer from financial depression when the rest of the community is undergoing pecuniary stress. When both the rich and the poor become poorer, the influx to dispensaries is increased, and necessary medical and surgical work of a minor character is postponed or eliminated. It, therefore, behooves professional groups to consider the relation of incomes to national health, and to participate in all movements tending to secure an upward adjustment of wage and salary schedules in all fields of human endeavor.

The ultimate consumer always pays the price of service, and is not unwilling to yield a reasonable living wage to the hand or mind worker. In the face of the income tax returns there is little evidence of gross profiteering on the part of labor. The tremendous fortunes which have been made thru war profits do not represent legitimate returns upon capital, and to these, most properly, exception may be taken. In the business re-adjustment now occurring, penalties are being paid thru losses which, how-

ever, do not completely offset the unnatural profits derived during the past four years. The balance of supply and demand will determine wages and the prices of commodities, and the general cost of living will gradually be lowered to some point approaching pre-war standards. It would be unfortunate, however, from the broad standpoint of general health and communal welfare if wages were to suffer a disproportionate drop. Every effort should be made to continue higher wages with increased production in the interests of the general national health and prosperity. Under such circumstances the economic element in public health would function most advantageously.

Both public health and private health are indeed purchasable, but communities and individuals must possess the funds to purchase the degree of health desired. This statement is not strictly true, tho for practical purposes it merits the consideration of physicians no less than health administrators, sociologists, economists and medical propagandists.

The Man Worth While.

When business slumps, and the cash you had
Is almost gone, and the times are bad,
When stocks are down and your bonds look
sick—

With worse news coming with every tick.
There's no use whining or "turning tail."
A man's half beaten who thinks he'll fail.
It's only weaklings who fret and frown.

Or take their troubles lying down.

No, the man worth while when things go
wrong,

Faces his troubles and struggles along.
He never seeks for a chance to quit
When Fate requires him to "do his bit."
And tho it breaks him to keep his word.

There'll be no regrets or whining heard.
But way up there in the Great Beyond
His record shows "his word was his
bond."



1921—It Can Mean Much to the Medical Profession.—The days are swiftly speeding and in spite of his apparent senility old Father Time will shortly have to acknowledge the paternity of the New Year, 1921. The passing year has been kind in many ways to the medical profession as well as to other callings. But like some of his recent brothers, he has been guilty of some questionable escapades and caused no end of worry and anxiety. *AMERICAN MEDICINE*, as well as other widely read publications, has had to suffer for some of 1920's misdeeds, and especially his unfriendliness to publishers. But in spite of the enormous increase in costs of paper, printing, engraving, cuts, labor and everything else which we have had to meet, there has been no lowering of our standards or decrease in our activities for, and in behalf of, the medical profession. Earnest, constructive work has been our constant aim, and that the profession has recognized and appreciated our efforts, has been evidenced by the innumerable letters of cheer and approval we have received thruout the year, and the gratifying number of new readers who have sent in their subscriptions.

As in the past, *AMERICAN MEDICINE* has stood firmly for the right as its editors have seen it. Against certain wrongs or evils we have spoken freely and frankly. At the same time we have attacked no individual, nor said any ill or unkind word concerning any one. Our policy, which we have adhered to from the first, has been to avoid all personal references of a critical or condemnatory nature. It is not within our province to question any individual's motives or to pass judgment on his acts or opinions. Resort to personalities can never help to correct an evil or right a wrong. It can serve no constructive purpose. For this reason no man can truthfully say that he has been treated discourteously and unkindly, or that he has been wronged and injured in the pages of *AMERICAN MEDICINE*.

On the contrary, our aim has been to miss no opportunity of commending the good deeds and achievements of our friends and the medical men who have done things for their fellow men. We have taken sincere pleasure in this, for we have felt that we have thus been helping, in some slight degree, to show the appreciation and gratitude of the whole profession. More than this, it has seemed to us that we were doing something for the profession we hold in such deep regard and esteem by recognizing and directing attention to the splendid accomplishments of its members.

Much, however, as we revere and respect our profession, we have not hesitated to refer to certain unfortunate and regrettable conditions which have long exposed the finest and noblest calling on earth to much unmerited criticism and attack. Thank God, the great bulk of the profession—yes, all but a small minority of the recognized physicians of the country—are honest, worthy men whose lives and labors exemplify all that is good in the practice of medicine. To these men honor is everything—honor in their dealings with their patients, their colleagues and their fellow citizens in general. They are unselfish, sympathetic and they love their work for humanity. For them to speak ill, or to belittle a brother practitioner's work, would seem to them the commission of a mortal sin. In their communities they are leaders, and the people, from the youngest to the oldest, love them for what they are, and for what they stand for. The world is a better place to live in because of the service they render to humanity, the good they do, and the example they offer to the people they come in contact with.

But not all medical men are of this type. There are a few who discredit the many. They may be well educated, highly talented and their professional skill be of the highest, but they seem to lack the fine sense of honor, the kindness, and the spirit of brotherhood that characterize the true physician. As a consequence, they are almost always responsible for the petty jealousies, the enmities, and many of the unfortunate and uncalled for events in medical circles that often lower the dignity and impair the standing of the whole profession.

It would be too much to expect that the calling of medicine would not attract some men who from fundamental social training or innate faults of temperament are unable

—or unwilling—to follow the nice principles of honor, unselfishness and loyalty to each other that most physicians are proud to. It is truly a pity that men of this type do occasionally take up the practice of medicine. Capable and aggressive as they are, they rarely ever fail to make their influence felt in ways that medical men who honor and glorify the profession for the ideals and principles it stands for, are bound to deplore and deprecate.

We have referred to the foregoing because we believe the time is near at hand when the American medical profession is going to exert a much greater influence on the affairs of the nation, and the world at large, than it ever has before. To fulfil its destiny and become the force it can for the good of mankind, it must free itself from the petty bickerings, the little animosities and the small intrigues that accomplish nothing but the creation of bitter antagonisms and hatreds. Why don't the great majority of medical men who wish to see the practice of medicine win the respect and confidence of the American people, make a special effort this coming year to show the world how earnestly opposed they are to the unkind, unworthy acts of the few who are responsible for the reproach and prejudice that so often are directed against the whole profession?

We heartily agree with the thought that great American, Roosevelt, was so fond of expressing, "Words are worthless unless backed up by deeds." But if more physicians would seize every opportunity of voicing their regard for right, and their disapproval of wrong, great good would surely result.

There has been too little discussion in our societies or in our medical journals of professional relations, and the obligations we owe to each other. Many have thought that this would create wrong impressions, that it would all too often be looked on as a covert attack on some colleague, or misinterpreted generally. But we do not think so. Every decent, clean-minded physician who holds dear the principles of his vocation, will welcome any article discussing the ideals and tenets of his calling. He knows that "human aims and human desires develop from what they are fed on."

The more the benefits of closer professional relations and of our confraternity are realized, the more efficient, respected and influential our profession will become, while

as individuals we will gain much in usefulness, self-respect and happiness.

Let us then make this year ahead a year of greater tolerance, of more sympathy for each other and readier willingness to extend a helping hand or speak a kindly word. United effort in putting the foregoing into effect will help beyond measure to make the American medical profession one of the most potent and effectual forces for constructive good in the onward march of the Nation.

Latest Bulletin—"The Country is Improving and Its Recovery is Certain."—

The year 1920 will soon take its place in the annals of the past. In many ways it has been a year of extreme contrasts, of much to be thankful for and much to regret, of a great deal of prosperity and yet of a great deal of adversity. A great many people have enjoyed gratifying business success; a goodly proportion have suffered serious business reverses. Many have made large sums of money, others equally numerous have lost much. Many sections of the country have been happy and contented; others at the same time have known only worry and misery.

Naturally, with the conditions thruout the country so varied and divergent, it is not strange that so many American citizens enter the new year with considerable anxiety and apprehension. Perhaps this is not a bad thing either, for apprehension leads to caution, and caution usually leads to wiser action.

But unless one is a wilful pessimist, there are certain facts concerning the country and the American people that warrant the utmost optimism. It is not possible, in these few remarks, to give all of the reasons for having implicit confidence in the early readjustment of economic conditions in the United States of America. First, let us consider the natural resources of the country. In the 144 years that have passed since the birth of the Nation, we have merely scratched the surface of the foundations of our national wealth. The agricultural returns as shown by the crops of the past five years have alone been sufficient to make the country one of the richest in the world—and our possibilities in this direction have only been partly reached. Next, let us think a moment of our system of government. Who can read the Declaration of Independence and the Constitution without acquiring new faith in

the principles of this "government of the people, for the people, and by the people"? Who can doubt its ability to endure and safeguard the welfare of those who are both sovereign and subjects? What better foundation could a Nation have? Finally, let us not forget the American people themselves. No people whose history is as glorious as ours, or who have drunk as deeply of political liberty and freedom could fail to be a thoughtful, sane and patriotic people. We may make mistakes, be swayed for the moment by our emotions or led astray temporarily by false leaders. We are human beings with the frailties and weaknesses common to all mankind. But we are Americans, and because of our particular form of government we have acquired habits of contemplative thought that can be counted on to lead us to consider our problems with a sanity and practicality that a subject people would never be capable of. Common sense in appropriate dosage is the best possible remedy for social ills and economic troubles. The American people have repeatedly shown their skill in the use of this remedy and its thoro application right now may be confidently expected not only to correct the minor ailments from which our country is suffering, but also to prevent any graver affections that may threaten.

Indeed, with as good a Constitution as America is known to have, the use of so effective a remedy as the common sense of the American people can hardly fail to produce prompt relief from all existing ills or complications and bring about the early restoration of national health and well-being.

It is suggested, since the country's recovery is so dependent on the treatment the American people can alone give, that the following bulletin might well be issued: "The patient has been somewhat indisposed for some time and developed a slight chill with some fever on election day, but under appropriate treatment this quickly subsided. The patient is now resting comfortably, the indisposition is passing and complete and permanent recovery is expected without interruption or delay. In fact, the condition of the patient is such that no further bulletins will be issued unless some unlooked-for complication arises."

Those Unrepentant Professors.—It is really hard to forecast the trend press criticism in America will take in matters of

more than local significance. When the Oxford professors addressed their appeal to the German scientists to bury the past and resume pre-war relations, as the business of science was a thoro devotion to humanity and not to any one chosen people, it was our opinion that the appeal was dignified, just and praiseworthy. There are circumstances in which patriotic motives should generously withdraw in favor of humanitarian ones. Such a circumstance had arrived, we thought. But the bulk of the American press branded the appeal as an undignified, unpatriotic and humiliating step. It seemed to them a gross and unpardonable attempt to curry favor with German scientists, those unrepentant professors who had thought their country was right and its enemies were wrong. Now comes the German response. The full text is not at hand, but the significant sentence in it is this: "We are ready to resume these connections and by common labor to relegate to oblivion everything offensive spoken or written in both camps." This reply is hailed by many newspapers as further evidence of the unrepentant German mind. "The German professors, like the rest of their countrymen," reads one editorial in an important metropolitan daily, "neither feel nor affect penitence." It must be granted that there is, in the sentence quoted from the reply, a recriminatory intimation of errors on the allied side which might serve as a basis for such a charge, but the psychology of this intimation is easy to understand and not difficult to wink at. It is going rather far to expect a dignified scientist to say: "Please forgive me." He naturally, however aware of his guilt, would prefer to say: "Please let us forgive each other." And we feel it will be the generous tendency among the Oxford professors to allow their German colleagues to shield their pride to this slight extent. Especially will they be inclined to do so as they are much better informed than the American press regarding the degree of repentance among the German scientists. For in addressing their appeal, they had before them ample evidence of such repentance, the American press to the contrary notwithstanding. The Oxford scientists had on their desks a little book entitled "Lille." This volume was one of the severest arraignments of German scientists yet to appear. It contained a bitter indictment of

the Prussian mind, Prussian methods, Prussian cruelty, documentary evidence of the brutal atrocities perpetrated by the Germans in Belgium and northern France. This little book, so damning to the German mentality, was printed in Berlin, and its authors were German scientists. The American press is generally well informed. How is it that it seems unaware of this clear proof of the German scientists' emphatic disapproval of German methods and their unqualified regret? The Oxford professors knew of it and they acted on the strength of it.

"No doubt," continues the editorial of the metropolitan daily, "the ordinary relations of men of learning the world over will be resumed, even with Germany, some time. But a premature effort to hasten this consummation is worse than none whatever. It is certainly not for self-respecting men among the Allies to make it. Let us hope that American professors will not be so ready with offers of oblivion as the Oxford dons have been." It remains to be seen, quite true. As far as we are concerned, we are rather inclined to believe that this newspaper underestimates both the intelligence and the humanitarianism of the American scientist, who will be ready to be magnanimous where the interests of the race are concerned.

"Harmless" Defectives.—On the occasion of the tragic death of Dr. Markoe at the hands of a madman criminally enjoying the liberties of a sound citizen, the impotence of the authorities in matters concerning the surveillance of mentally defective individuals was severely criticized in these columns. The recent double murder committed by a "harmless" defective in New Jersey and the Brooklyn murder of a similar nature bring home once more the deplorable laxness of responsible individuals. Such crimes are avoidable and they should and can be avoided. It is high time that the municipal authorities of New York, that the authorities in every community in the country, give serious thought to the matter and consult with a view to agreeing on a systematic and thoro plan for the surveillance of these unstable elements in the life of the community. The situation at present is deplorable, not to use a more severe term. Relatives, interested individuals, inadequately equipped local practitioners are

depended-upon to decide the safety of defective cases. These individuals are in no wise qualified for such a decision, and the recent crimes are testimony of their incompetence. Dr. Carl E. M'Combs, of New York, taking up the issue in an open letter to the press, contributes the first comprehensive and concise plan for a general method of handling such cases effectively. He draws his inspiration from the Clearing House for Mental Defectives created by Dr. Max G. Schlapp at the Post Graduate Hospital, New York, and conducted by him for several years, handicapped severely by the indifference and lack of support of the authorities and the city administration, despite the large contribution to public safety that this clearing house makes. Dr. M'Combs recommends that such a clearing house become an integral part of the city administration and makes the following suggestions:

"Decision as to the disposal of mental defectives following their examination should be made by the clearing house in co-operation with the courts, the police and the health authorities. The clearing house should work in close conjunction with the police to examine also all persons arrested for violations of the law under circumstances indicating that the arrested person is mentally incompetent. Such violation of the law as indecent exposure, sending in false fire alarms, wanton damage of property and unprovoked assault may and often do indicate that the offender is mentally defective. The clearing house should, of course, examine all cases referred to it by the courts and should be represented in the courts. Some mentally defective persons may be harmless and may be allowed to remain at home, at work, at school or elsewhere under proper supervision and direction, but determination on this point should not be made by friends, relatives or associates of the individual concerned, or by a policeman, court officer or jury of laymen. No one but a skilled physician who understands the problem of the mental defective thoroly is competent to determine when, where and in what manner a mentally defective person should be placed under restraint or left at large. Whatever the needs of such a person, public control should begin before the public generally recognizes him as a menace to society, that is, before he has committed a crime. With the help

of those who have had experience in dealing with mental defectives steps can be taken during the coming year to organize a municipal clearing house for mental defectives along the same line as the Post Graduate Hospital Clinic."

We can only hope that such help will be forthcoming and that these sound suggestions will be followed.

President Wilson's Health.—It is a matter of heartfelt satisfaction to the American people that President Wilson has finally regained his health to an extent that permits him to resume the essential activities of his position as the Chief Magistrate of the Nation. A great many citizens of the United States have not agreed with all of President Wilson's views and policies. The resulting controversies have at times taken on a bitterness and intolerance that have all too often completely obscured the fine humanitarian spirit that has actuated Mr. Wilson in all his undertakings, and blinded not a few of his fellowmen to the faithful, unflagging devotion he has shown in serving the country. But let those who will, criticize the President's ideals and his advocacy of the principles of national honesty and integrity. Any man can well afford to be ridiculed or condemned for his adherence to right and honor. One thing is certain, however, no fair-minded man can have the slightest doubt of Mr. Wilson's deep love for his country. He may have made mistakes—so has every other man who has accomplished anything—but there has never been a moment when the President has not stood for all that is best in American civilization or failed to hold aloft the torch of national honor. In consequence, we believe that all mankind has derived a measure of spiritual gain from President Wilson's labors which tho it may not be as evident today as it ought to be, will nevertheless in the days to come add to the riches of the human family.

We have not been numbered among the constant followers of Mr. Wilson, nor have we always been in sympathy with the course he has pursued in connection with certain of our national affairs. But we have never seen how any one could question the honesty of his intentions, or the good faith with which he has approached and attempted to solve the country's problems.

Indeed, the more we have considered President Wilson's achievements and studied his speeches and state papers, the more we have become convinced that he has suffered more than any other President from the misfortune of being misunderstood. But time may be trusted to give us a true perspective and we believe the day is not far off when the American people will be able to estimate Mr. Wilson at his true worth. When that time comes we feel certain that he will take his place in American history as one of the greatest of American presidents, a man who in sacrificing himself, as he has, in his efforts to give his country and all humanity the blessings of peace, has left a legacy of patriotic example that will prove in the years ahead one more of the priceless heritages of the American people.

In view of the respect and confidence President Wilson has always had in the medical profession, and the part some of our foremost American physicians have had in aiding his restoration to health, it seems entirely fitting that this expression of sympathy and esteem should appear in a medical journal owned, controlled and directed by American physicians.

Dirty Money.—It is too bad that the great bulk of the paper money at present in circulation is so dirty. We often hear money spoken of as filthy lucre. There is a particular significance to the term today, for it is impossible to imagine our paper currency with a filthier or more soiled aspect. It is to be hoped that conditions may soon make it possible for the Treasury Department to call in the dirty money that the people have been forced to use, and either give it a good bath or else issue "something just as good" in its place. This does not mean we countenance substitution, but we are willing to make an exception in the exigencies of the situation. The bath we suggest, moreover, should not be an "immunity bath", for we do not want the cleansing process to absolve even the humblest dollar bill, this coming year, from any of its obligations or responsibilities under the law.

To speak in a more serious strain, there is real danger from paper money as dirty as that which we have been using. Not only

do the roughened, minutely frayed surfaces of worn and soiled bills favor the collection of germs, but these, with grime and dirt, work their way into the tiny seams and almost microscopic cracks. Passed, as they are, from person to person, many of whom know next to nothing of cleanliness, it takes no very vivid imagination to envision innumerable ways whereby money may be germ contaminated. Money then becomes a germ carrier, with all the potential dangers of a transmitter of infective material. The subject might be elaborated in greater detail, but enough has been said to emphasize the conditions that exist. The appearance of quite a little new paper money around Christmas time leads to the hope that the filthy lucre we have been using will soon disappear. If only for appearance sake, we would welcome this prospect, but when we think of the hygienic benefits, the possibility becomes doubly pleasing.

Another Medical Man Becomes a Deputy Police Commissioner.—It was extremely gratifying to the medical profession when Dr. Harris was made a Deputy Police Commissioner in charge of city traffic, and the splendid results he has accomplished in improving traffic conditions in New York City are not only a testimonial to the man himself, but also to the powers of observation and systematic methods his medical training had given him. Dr. Harris has made good even beyond the keenest expectations of his many friends.

More recently, word comes of the appointment of Dr. Carleton Simon as a Deputy Police Commissioner in charge of the Narcotic Squad. Dr. Simon is one of the best known physicians in the country, especially for his psychologic studies and investigations in correlated branches of science. He has given special attention to narcotic drug addiction in many of its phases, and is, therefore, especially qualified to direct the activities of the Police Department in controlling the improper use and illicit sale of narcotic drugs. The appointment of a capable, well trained physician as head of the Narcotic Department is a most commendable step on the part of the authorities, for obvious reasons. It is particularly gratifying to the medical profession, not alone because of its recognition

of the administrative qualifications of the experienced medical man, but because of the confidence felt in his ability to appreciate the medical problems presented by the unfortunate sufferers from drug addiction. Dr. Simon is known to take a broad, humanitarian, as well as scientific, interest in medico-sociologic questions, and drug addicts who honestly seek help can count on his sympathetic consideration and aid. Dr. Simon expects to be handicapped somewhat for a while, because of the present inability of the City to support his efforts with proper facilities for treatment and after cure. But steps to provide suitable means of treatment are being taken and this all-important need will soon be met.

Dr. Simon's study of criminology will also help him greatly in coping with the illicit dealers, and the importance of this phase of his work cannot be overemphasized. The illicit drug sellers, in many respects, constitute the greatest menace of the underworld, for they prey on the weak and afflicted. Already, Dr. Simon has made notable progress in his fight with these parasites, and every good citizen will follow his efforts with the deepest satisfaction.

Once again is our contention borne out that medical men of broad education and training are especially qualified for administrative positions, and if their services were more often utilized in this direction, the public interests of the people would be much better taken care of.

Rear Admiral Stitt Becomes Surgeon General of the Navy.—For a long time the United States has been most fortunate in the character of the physicians who have been at the head of the different medical services of the National government. It is no exaggeration to state that in recent years the men who have become surgeon generals of the different departments have invariably brought to their positions conspicuous ability and records of achievement. Of all appointments during the last half century, there have been few, however, that have been hailed with the approval and satisfaction that have greeted the announcement that Rear Admiral E. R. Stitt has been made the Surgeon General of the Navy.

Admiral Stitt, whose portrait we are proud to publish this month on our front

cover, is a man who stands out as a physician of exceptional scientific attainments in the Navy Medical Service, and that is saying a great deal, when one stops to consider the type of medical men who make up the personnel of the Service. The average person—we might include the average physician, too—does not realize the responsibility that rests today on the naval surgeons of the country. With our Navy growing as it is, and our naval vessels visiting every port in the world, our navy surgeons, aside from the service they render in safeguarding the health of the men under their charge, are constantly watching for the first sign of any foreign menace to the health of the American people. Many other duties fall on them, and it is because of these and their great responsibility to the whole country that it is necessary that our navy surgeons shall be picked men.

Dr. Stitt was born at Charlotte, N. C., in 1867. He received his collegiate education at the University of South Carolina and his medical at the University of Pennsylvania, from which he graduated in 1889. He became an assistant surgeon, U. S. Navy, March 27, 1889, passed assistant surgeon three years later, surgeon in June, 1900, and was made medical director with rank of rear admiral October 15, 1917. Dr. Stitt is an authority on tropical diseases, to the study of which he has devoted the major part of his professional career. He was for several periods professor of bacteriology and pathology at the Naval Medical School, Washington, D. C., with charge of the chemical and bacteriologic laboratories. He has been Director of the school since October, 1916. According to the *Journal A. M. A.*, investigations on the diseases of the warm climates date back to 1902, when he was assigned to a station in the Philippine Islands. In 1905 he pursued special studies at the London School of Tropical Medicine, receiving a diploma with distinction, and in the same year was appointed a medical member of the Nicaraguan Canal Commission. Later he occupied the chair of zoology at the University of the Philippines in connection with his tour of duty as commandant of the hospital at Cavite. Since 1909, Dr. Stitt has been almost continuously a member of the faculty, and during the last four years director, of the Naval Medical School, and at the same time lecturer on

tropical medicine at Georgetown and George Washington universities and the Jefferson Medical College. He is a member of the National Board of Medical Examiners of the advisory board of the Hygienic Laboratory, of the committee for the tenth revision of the United States Pharmacopeia, and president of the examining board for medical officers of the Navy. A textbook on practical bacteriology now in its sixth edition, and a manual on the diagnostics and treatment of tropical diseases, the fourth edition of which is in preparation, are among the best known of his many valuable contributions to the literature of scientific medicine.

The Appeal for Vienna's Children.—

No one can read the interesting but saddening paper which leads our original articles this month without being depressed by the dark picture which Dr. Fisher gives us of conditions in Vienna. Many of us have memories rich in recollections not only of wonderful days spent in the hospitals and clinics of Vienna, but also of the innumerable courtesies and favors shown us by men whose names stand out prominently in the history of latter day medical achievements. Can we ever forget the fine, hospitable spirit shown, or the earnest efforts taken to make us as "strangers in a strange land" feel perfectly at home? And now when the self same medical men who were so prodigal of their hospitality have fallen on dark days and, thru no fault of their own, are in real want, can we neglect the opportunity of repaying some part of the obligation we owe? We know the hearts of our American colleagues too well to have any doubt of what they will do. The recent demands on the charity of every American citizen have been not unlike the admonition the ward bosses used to give to their cohorts to vote "early and often." The calls on us to give have been no less insistent, and many of us who have felt the high costs of everyday life have a flattened purse. But no matter how depleted our finances, we should be glad "for old time's sake" to "give until it hurts" for our friends of old Vienna days.

Let us not procrastinate but send in our gift be it ever so small, without delay. Our medical friends in Vienna ask little for

themselves, but they do want help for the little sick children who are under their care, and the American Convalescent Home for Vienna's children, organized by two well-known New York physicians, Dr. Otto Glogau and Dr. Fritz Neumann, is one of the most effective agencies for relief that is operating in Vienna today. Dr. Glogau and Dr. Neumann deserve great credit for their broad humanitarian work, and it "is up to us" medical men who have cherished memories of old Vienna to stand by them. No matter if you can only spare a small sum from time to time, send it along "early and often." Make all checks payable to American Convalescent Home for Vienna's Children, Room 1106, 225 Fifth Ave., New York City.

The above together with Herbert Hoover's Committee for the Destitute Children of Europe, and the *N. Y. Times* "100 Neediest Cases," carry a strong appeal to us medical men. We must not fail to do our financial part even tho our incomes are slender—and brittle—and we are always giving of ourselves and physical resources.

Our Annual Index.—Altho our Index this year represents a cost of over six hundred dollars for paper and printing alone, to say nothing of the extra editorial, clerical and postage expense, we look on it as an absolute necessity to round out the service AMERICAN MEDICINE seeks to render to its readers. In the face of present-day printing, paper and labor costs, its preparation and publication this year add, therefore, very materially to our financial burden. Once again, however, have we substantiated our claim that no expense or effort is ever spared when it is a question of maintaining our value or efficiency as a national medical journal.

We are somewhat proud of this Annual Index. It is remarkably full and complete, and our list of contributors is one that any medical journal might well point to with more than ordinary pride.

The Index will show the scope as well as wealth and diversity of the material supplied to our readers during 1920. Any medical man who refers to it is pretty certain to find the latest and most valuable data on almost every subject of current importance to the physician in practice.



THE UNFORTUNATE PLIGHT OF THE MEDICAL PROFESSION OF VIENNA.¹

BY

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The subject of these remarks which I am sure you will be interested in is the economic condition of our colleagues in Vienna. Thru special circumstances I am able to give you some direct information concerning them. Many of my hearers may not be familiar with existing conditions, but as earnest medical men we cannot ignore them, for they concern the medical profession the world over, if not directly, at least indirectly. The profession of medicine is not only international in its scope and relations but dependent upon the co-operation of all its members no matter what their nationality may be. All medical men are component parts of a great machine and all are essential for its successful development and operation. No one will deny the fact that very little progress in any great undertaking is possible without the aid of our profession. As every one knows, Vienna has given the medical world many famous leaders, teachers and benefactors

of the human race, men to whom we physicians owe much.

I had heard thru various sources that the plight of our colleagues in Vienna was very sad, but I did not realize and could not realize how pitiful it was, until I went there myself and spent some time among them. It was then that it first suggested itself to me to bring this matter to the attention of their American medical friends and colleagues, and show what sufferings they had endured, and would still have to endure. I seek, therefore, to acquaint those of you who have been too occupied to realize the conditions in Vienna, with the real facts, and give you some direct, or first-hand information which I am sure you will be startled to hear.

In order to explain present economic troubles of our Vienna colleagues, it is necessary to give you some facts about Austria generally. Austria is the greatest sufferer of all countries as a result of the war, and no improvement is possible in present day conditions without aid from the outside world. Our own glorious country can do most to save a great nation betrayed by its erstwhile rulers. Because Austria's credit is so very low, its money has very little purchasing power. It has so little value, that it is said, in Switzerland there is a brand of beer called Kronen beer, and for labels, Austrian kronen are used. It is

¹ Address delivered before the East New York Medical Society of Brooklyn, N. Y.

cheaper to use this money than to print beer bottle labels! It is self-evident then, that everything must necessarily cost a great deal in their money. To us who have American dollars things would be very cheap at the present rate of exchange, but to the Austrians who are paid in kronen, everything is extremely expensive. The cost of everything has multiplied hundreds of times, while fees and wages have increased very little in proportion.

Austria is further handicapped because, now, it has no natural resources, such as coal. No factories are working, no trains or boats are running. Trolleys run up to a certain hour in the evening. At night everything is dark. The people possess no farming implements and there is very little agriculture. Because of the lack of cattle, there is no beef, milk, butter or other fats, and very little of anything else. What little food there is comes mostly from the different relief missions. Everything is rationed from tobacco to bread. The government controls the tobacco traffic and smokers are allowed about 20 cigarettes a week or a package of pipe tobacco. This tobacco appears to be made from dried tree leaves and chopped hay. The so-called bread is distributed on cards every Monday and the rations must last until the following Monday. It is not baked well enough to eat the first few days, and becomes too hard to eat the last few days. Cards entitling the holder to his rations of sugar in May were redeemed in August with saccharine tablets. Even these tablets are very scarce. Meat, when obtainable is so high that it is beyond the means of most. Fruits and vegetables are out of question. There is no butter at any price, and even oleomargarin is not to be had. Cottonseed oil is the only fat obtainable. These are

some of the food conditions under which our colleagues are striving to exist and carry on their work.

Added to all this scarcity of food and extremely high prices, is the fact that there is very little income from medical practice. No longer do wealthy travelers come to Vienna to seek medical aid and this has cut off much of their revenue. Again, there is no longer the great Austrian middle class, which at all times was the main support of the medical profession. And finally what little revenue there may be, must be divided among a greater number of doctors than before the war, for there are very many medical refugees in Vienna who must support themselves as best they can.

The possible sources of income of the various medical men are: *First*, private practice. This as I have already shown amounts to starvation for most of them. A very few at most, make enough to live even fairly well. *Second*, from government sources. How well a government pays its employees needs no comment. The most one gets out of it is just enough to keep from immediate starvation. There are two sub-divisions of this second class. In the one case they are full-time men in the various kliniks, who live there, eat there, and draw some pay. *A month's salary will not buy a pair of shoes.* And for a suit of clothes, they must work and save for many months. In the other case, the men are part-time assistants who work there nearly all day, but go home to sleep and eat. Lately they were given a little pay and were allowed to have their meals at the kliniks if they paid about seven kronen, in our money about four cents, for each meal. How those in private practice will be able to heat even one room warm enough to examine patients this coming winter will be a grave problem.

How they will obtain warm clothing, or any kind of clothing, is another problem. However, they are very optimistic and are hoping that it will be a "warm summer this winter."

Regarding meals, I want to give you an idea of what is considered a very good one. I had quite a variety of meals in Vienna and know that the following one was exceptionally good. It was served in the Kinder Klinik of Pirquet where the food is the best to be had. I cannot say that I enjoyed the food so much, but I did enjoy the company of Profs. Schick, Meyerhoffer, Nobel, Rach, Drs. Kassowitz, Wagner and others. Judging from the way the meal was relished, it would appear that it was a feast. It consisted of a plate of rice soup, and some of us put bread into it to give it more substance. Then came some boiled potatoes, and fried string beans, which were then in season. Then some *komport* and a cup of coffee without sugar or milk. To me this brand of coffee was entirely new and I am still wondering from what kind of beans it was made. The food served in the other kliniks was much inferior. I know personally of not a few instances of assistants in the surgical kliniks of Eiselberg who have gone hungry from case to case, operating steadily for many hours until almost exhausted, rather than eat the food furnished them. Prof. Tendler, who is professor of anatomy, and also holds a position corresponding to Secretary of State, told me that in comparison to the people at large these physicians were considered fortunate indeed, since besides sleeping quarters, they had meals which included some meat, this coming if conditions permitted as often as twice a week. He himself had only had a small piece once a week and previously only once in three weeks! The public had a

little on very rare occasions, but usually none at all.

To make both ends meet many precedents have been set aside. Prof. Wenkebach of the first Medical Klinik, successor to Von Noorden, explained to me that he had to devote part of his time to private consultations. So do many others who are lucky enough to have the opportunity.

One of the most pathetic things is the breaking up of homes and hearts, when many of the doctors have to part with life's dearest treasures, their kiddies. They send their children away to other countries, to other doctors' families, to be fed and cared for until such time as they may be able to provide for them again. Their pride will not permit them to obtain the necessities of life for them in ways that others do, and so they resort to this method of saving their lives.

We hear a great deal about disease raging there. Did you ever realize what this means? Nearly 100% of the children have rickets in its various forms, and are therefore doomed to be more or less crippled for life. Over 90%—or to be more exact, 94% of the children suffer with tuberculosis in some form. How much scurvy and other diseases there are you can judge for yourselves. Thus gradually are these diseases killing off the nation. Food alone can stop this scourge, and this food must be obtained at once.

No child over one year of age ever gets any milk. Only those under a year, and who are not breast fed, receive it for twelve weeks in the year upon recommendation of a physician and the O. K. of city officials. This milk comes from England and it takes several days to get there. When it arrives you may rest assured that it is not certified milk. They have neither butter nor oleo-

margarin and it is truly heart-breaking to see the parents of these little ill children who need fats come to the Kinder Klinik and plead for some *lebertran*—cod liver oil—only too often to be turned away, because they are allowed only one pint every two weeks. During the last epidemic of scurvy, Prof. Pirquet gave the children a drink made by boiling the needles of pine trees as a substitute for the much needed fruits and vegetables, of which they have had none for a very long time.

I have mentioned before that nearly all their food is obtained thru relief missions, and the American Relief Mission alone is keeping Austria from being wiped out of existence. Besides doing all kinds of relief work for relatives of Americans, it cooks for 300,000 children, and also supplies the food for 172,000 children for one meal a day. This Mission has distributed thruout Austria a great many kitchens where the school children come carrying their tin plates and cups to receive one meal in 24 hours. Some of the more fortunate ones perhaps get some extra food at home if there is any to be had. These children are fed according to Prof. Pirquet's new caloric method which I hope to explain some time in the near future. All I can say now about this is that it is so wonderful and so far ahead of anything which has to do with feeding, whether of one infant or a whole country, that the American Mission on this account alone has extended relief to Austria for another year. I have some records which show the wonderful results that are to be obtained by this method in a very short time.

This is what is being done for children who are able to be about and are apparently well. What can be done for the badly crippled and bedridden, and those who need

institutional care? This question was answered by a number of men in New York who founded the American Clothing and Hospital Relief for Vienna and collected already \$100,000 towards the maintenance of the American Convalescent Home for Vienna's children. The chairman of this organization, Dr. Otto Glogau and its secretary, Dr. Fritz Neumann. All I can say about the American Convalescent Home for Vienna's children is, that it is a real life-saving station. The work is carried on by a most conscientious and able staff under the management of Dr. Rach, working under orders from Prof. Pirquet. How wonderful are the results obtained at this home I hope to be able to show you later. There is only one drawback about this home, and that is it has such a long waiting list that just as soon as the children begin to improve they are discharged, which is almost always far too soon. It should be enlarged to care for a great many more than it does now. It is an everlasting monument to those Americans who made it possible.

In spite of all these obstacles and hardships, such men as Prof. Pirquet and his new method of feeding; Prof. Wenckebach and his work on heart conditions and his wonderful treatment of extra systole and fibrillation, etc.; Prof. Steinach and his investigation of the internal secretions; Dr. Muller and his work on tuberculotoxic nephritis; Dr. Saxel's work on protein therapy of gonorrhea and other conditions; Prof. Schick and his investigations of diphtheria; Profs. Eppinger, Lorenz, Eiselberg and many, many others, too numerous to mention, are all striving with traditional devotion to their work, and utter forgetfulness of self to advance medical science and benefit mankind. We, who benefit by their work should show them and their co-workers that

even tho their pride prevents them from stating their own sad case, we are aware of the facts and stand ready in the most trying moments of their careers not only to encourage them with our sympathy, but with material aid for those of them who need it. That there are many who need material aid is only too evident. I have seen in the hospital wards doctors of many years' practice who, when ill, could not afford private care. None, however, would accept charity, and each paid what little he could for his care. Those of them who need aid ask only for a loan, not charity. I can assure you, physicians of America, that any help you may offer in the form of a contribution for food, clothing, etc., will be greatly appreciated, and the blessings of those who receive it will follow you all the days of your life.

THE RELATION OF FISTULA IN ANO TO PHTHISIS.

BY

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The proctologist is often called upon to treat fistula in ano by patients whose condition is made worse by coughing, the result of pulmonary disease. The general practitioner likewise attends many tuberculous patients who will not yield to the best treatment on account of an exhausting discharge from an anal fistula. Pulmonary tuberculosis and fistula in ano are not infrequently seen together, the fistula being formed by a tuberculous ulcer in the lower end of the rectum piercing the gut and thus producing suppurative inflammation in the loose areolar tissue about the lower end of the rectum. According to Spillman's statistics, fistula in ano occurs in about 35

per cent. of cases of pulmonary tuberculosis. A thoro analysis of the statistics of others and my own has led me to the conclusion that from 5 to 6 per cent. of all tuberculosis patients suffer from fistula in ano. Both surgeons and physicians have some years ago advised against the operation for the cure of fistula in ano believing that there was some anatomic or pathologic connection between the anal fistula and the lungs and thinking the pulmonary trouble would be aggravated in case the fistula is healed and leaving no outlet for the discharge. Some even believe that if pulmonary tuberculosis were not present before the operation it will surely develop after the cure of the fistula, as a result of retained poison finding its way to the lungs.

While many cases of fistula in ano are tuberculous, characterized by the formation of fungous granulations and a tendency to burrow beneath the skin and mucous membrane, I do not believe that all fistulas are the result of phthisis. A person having diseased lungs may be just as liable to the other causes of fistula, *i. e.*, foreign bodies in the rectum, bruising, trauma, effects of cold, etc., as persons who are otherwise healthy.

There are two kinds of tubercular fistulas: True tuberculous and non-tuberculous fistulas. True tuberculous fistulas are secondary to intestinal ulceration in phthisical cases. Tubercle bacilli may gain entrance to the intestine thru swallowing sputum containing these germs.

Non-tuberculous fistulas are common in tuberculous patients for the following reasons:

Persons having general tuberculosis are particularly prone to suppuration from slight causes. Because of the absence of fat in the ischiorectal fossa large blood

vessels are left unsupported and readily become dilated and congested. The effects of constant coughing of tuberculous patients are mostly felt at the anus which, in turn, may result in bruising of the parts and lead to abscess and fistula. In case of doubt, the microscope will determine whether a fistula is simple or tubercular. The presence in the discharge of tubercle bacilli is the best evidence of localized tuberculosis. In such cases it is necessary to curette the abscess and wall of the fistulas and examine the débris. This procedure will invariably prove the nature of the disease. Failing to find bacilli in the feces or discharge, it is safe to conclude that the fistulas belong to the non-tuberculous type.

The question at issue is, shall we operate for fistula in ano in patients suffering from pulmonary tuberculosis?

Surgeons generally agree that the ordinary fistulas should be operated upon and the wound allowed to heal by granulation. There are, however, physicians, even in this day of research and pathologic study, who believe that the curing of a fistula in a healthy person would result in phthisis.

The reason advanced by the old writers against the operation is that the discharge of the fistula modifies the disease of the lungs and they consider a fistula in ano in tuberculous patients a condition to be desired.

Regarding the advisability of operating on tuberculous as well as the simple form of fistula, the opinion of the profession seems to be divided. It has been my practice to operate on every case of fistula in ano, irrespective of its nature, provided the general condition of the patient permits it and the results obtained have been equally satisfactory to me and to my patient. The vitality of the patient should determine the necessity for an operation.

No surgeon should risk his reputation by operating upon a patient who presents symptoms of advanced tuberculosis, like hectic fever, sweats, cough and very pronounced emaciation; a person who would probably die in two or three months. Each case should be a law unto itself and the treatment, be it palliative or operative, should be the best for the case in hand.

The palliative treatment consists in keeping the fistulous openings free, thereby encouraging drainage, assisting healing and relieving pain by injection, or the application of caustic, stimulating, antiseptic and soothing remedies, improve patient's general condition, etc. Cases suitable for operation should be operated upon under local anesthesia. I have never lost a case operated upon under local anesthesia. Experience has taught me that most deaths following shortly the operation for fistula in ano are due to inhalation pneumonia excited by ether and not the operation or its sequelæ.

Personal observations have led me to the following:

Conclusions.

1. Tuberculous fistula of the anus is usually secondary to tuberculous disease of the lungs.
2. Pulmonary phthisis is rarely, if ever, secondary to fistula in ano either before or after operation.
3. Tuberculosis of the anal region should be dealt with radically, as wounds upon the consumptive heal more readily than is generally supposed.
4. When the patient's general condition will permit the surgeon should operate on all fistulas irrespective of their type.
5. The surgeon should not refuse to operate on persons suffering from a mild form of phthisis, for in incipient cases the operation is always justifiable.
6. There is no reason why a tuberculous focus should not be extirpated here as elsewhere. The operation should be followed

by a thoro scraping out of the fistulous tract. Unless the lung trouble is very active and far advanced operation is not contraindicated.

EARLY NERVE INVOLVEMENT IN ACQUIRED SYPHILIS—WITH REPORT OF A CASE.

BY

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It was the almost universal belief among older authors that nerve involvement in acquired syphilis invariably occurred as a late manifestation; whereas, it is now well recognized that any portion of the great nervous mechanism of the human body may be implicated during any stage of the disease.

No reasonable theory has yet been evolved to explain why the nervous system is attacked (either early or late) in one instance and not in others under identical circumstances and conditions. The virulence of the syphilitic infection appears not to be responsible, since both early and late nerve involvement has been noted in mild as well as so-called malignant types of the disease. The question of medication is also apparently without significance, as nervous manifestations have been observed with about equal frequency in properly and in imperfectly treated cases. That special strains of *spirochetæ pallida* manifest a selective preference for nerve tissues represents a theory which appears to lack scientific clinical confirmation, altho many experimental observations have been reported in support of the views expressed by Reasoner and his followers.

It is estimated by Bondurant that one in five inhabitants of the United States has the

taint of syphilis in his blood; that one in five of those who contract syphilis receives material injury to his nervous system therefrom; that one in five of the inmates of state hospitals for the insane is placed there by syphilis which now ranks first as a cause of insanity; that most of the organic nervous disease seen in practice is a result of syphilis. "The already enormous and steadily increasing amount of syphilitic disease, and the disastrous results of its all too frequent involvement of the nervous system, introduce one of the most serious medical, economic and sociologic problems which human civilization is now called upon to treat."

Pathology.

Pathologically, says Bondurant, the inflammatory process which characterizes syphilis may involve the meninges, the nerve sheaths, and the intrinsic connective tissues of the central nervous organs and peripheral nerves, causing thickening and proliferating overgrowth with sometimes granulomatous infiltration or tumor formation. The blood-vessel walls become diseased, leading to circulatory disturbances, occlusions, hemorrhages and softenings. Damage to nerve cells from syphilis is usually secondary to inflammatory and other changes in connective tissues, blood-vessels, and meninges, "altho the directly toxic effect of the poison of syphilis upon the neurons contributes somewhat to the pathologic process."

The author further states that the clinical symptoms and disease syndromes caused by action of the syphilitic poison upon the nervous system are merely perversions of, or qualitative alterations in, normal nerve cell function. The clinical picture of syphilitic nervous disease is determined by the distribution and severity of the lesions, and

by the functions of the cell masses which become involved. Among these diseases and syndromes may be mentioned: acute and chronic peripheral neuritis, acute and chronic myelitis, specific poliomyelitic inflammation and degeneration in the gray matter of the cord and cranial nerve nuclei; optic nerve atrophy and cranial nerve palsies; headaches, neuralgias, spasmodic neuroses, organic epilepsies and acute psychoses; apoplexies, both thrombotic and hemorrhagic; granulation tumors of brain and cord; bony exostoses and fibrous thickenings causing pressure; Jacksonian epilepsies; meningitis and syphilitic dementia. (*Bondurant.*)

In this connection the writer desires to express entire agreement with those who believe that the terms parasyphilis and parasymphilitic affections are distinctly erroneous and should be discarded from scientific nomenclature. Neurosyphilis is permissible as it is more expressive and has the advantage of being scientifically exact. Syphilis which involves the nervous mechanism is syphilis nothing more nor less.

Diagnosis.

To facilitate recognition of nervous system involvement in early as well as late stages of syphilis the following facts are suggested by Bondurant:

(1) That the neurasthenic syndrome is often present as the earliest evidence of cerebral or meningeal syphilis involving the convexity.

(2) That the psychasthenic syndrome likewise gives early warning of diffuse syphilis cerebri affecting the vertex.

(3) That ptosis and other oculomotor palsies are usually diagnostic of meningeal syphilis of the base.

(4) That most of the optic nerve atrophy is syphilitic in etiology.

(5) That many headaches and neuralgias are caused by syphilis.

(6) That most of the pupillary light reflex abnormalities seen are of syphilitic etiology.

(7) That chronic neuritis of the sensory type is usually syphilitic.

(8) That symptoms of spinal accessory root irritation—stabbing pains, anesthesia, disorder of position sense, delay in rate of transmission of nervous impulses, etc., are usually manifestations of syphilis.

(9) That the onset of epilepsy after the age of thirty-five years means syphilitic infection.

(10) That the occurrence of arteriosclerosis, cerebral hemorrhage, softening, etc., before the age of thirty-five years, is seen only in those previously infected by syphilis.

(11) That nearly all spastic paralysis is syphilitic in origin.

(12) That nearly all disturbances in gait are due to syphilis.

(13) That most aphasias and other speech defects in adults are due to syphilis.

(14) That most abnormalities of deep reflexes (with the exception of those seen in acute non-specific infectious diseases) are evidences of syphilis.

(15) That a large percentage of acute and chronic mental diseases are primarily syphilitic in causation.

Case Report.

The following brief case record is presented merely to illustrate the fact that nerve involvement may occur in the early stages of syphilis.

A. B., male, aged twenty-four years, consulted a Louisville oculist complaining of double vision and "numbness" over the left side of his head and face which had first been noticed three days previously. The customary ocular and visual tests were made and negative findings reported.

Inquiry developed the history that six weeks previously this young man had a sore on his penis; that he had consulted a physician in another city who made the diagnosis of syphilis and administered one intramuscular dose of arsphenamin. The patient said he was told nothing concerning the nature of his disease nor the necessity for further treatment. This history was obtained only after we had insisted upon his

blood being examined. Both the blood and spinal fluid Wassermann found four-plus positive; cell count about fifty.

An intravenous injection of arsphenamin was given immediately. Five days later the symptoms had greatly improved and practically disappeared after the second injection. There remains slight numbness at the angle of the jaw and short periods of double vision occur at intervals. The patient is still under observation.

The most interesting feature in this case has already been mentioned, *i. e.*, that nerve involvement occurred six weeks after appearance of the initial lesion. It is believed this is quite unusual. Doubtless every physician who treats cases of this kind has occasionally noted the development of cerebral manifestations within a few weeks after infection, even before healing of the initial lesion. Such phenomena, however, must be rare. Mental symptoms may become so severe that it is necessary to place the patient in an institution where proper control can be secured. As a rule, fatality soon follows where violent cerebral symptoms develop during the early stage of syphilis.

For many of the foregoing data the writer is indebted to the article by Bondurant which appeared in the *New York Medical Journal*, July 15, 1916, to whom it is desired full credit be accorded.

Prostatic Obstruction.—In most cases of prostatic obstruction a silver or block tin catheter can be passed, with gentleness, even when Mercier and bi-coudé catheters fail.—*Am. Jour. of Surg.*

Sore Throat.—Every sore throat is a danger signal, says the United States Public Health Service, and may indicate some acute, infectious disease, such as diphtheria or scarlet fever. Take no chances. Have a physician make an immediate examination. A few hours delay may cause death.

THE THYROID FACTOR IN TUBERCULOSIS.

BY

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Because of my special interest in endocrinology, and because I live in sunny southern California, I am frequently confronted with problems which connect the glands of internal secretion with tuberculosis. It has occurred to me to set down a few ideas on this subject as I judge from a number of comments that the medical profession as a whole may not be as appreciative of the importance of the endocrine aspect of tuberculosis as it deserves.

As is well known, the thyroid gland is a very important factor in the control of the defences of the body. Aside from being the most important regulator of the chemistry of the cell, it is also proved by Sajous and others to be a factor in the immunity response of the body to infections. Consequently any condition as definitely a toxemia and an infection as tuberculosis is known to be, necessarily must influence the thyroid gland, and thru it also those functions over which it presides.

Let us first consider for a moment the influence of toxemia. The thyroid gland is probably the greatest single factor in the detoxicating mechanism of the body. It is also equally concerned in the stimulation of the other features of the cell chemistry. In other words, intracellular oxidization depends upon the thyroid hormone. If toxemia lays an extra burden upon the thyroid, one would expect to find a well defined thyroid aspect in tuberculosis, and we do very routinely. Both thyroid irritability, or hyperthyroidism, and thyroid insufficiency, or hypothyroidism, may result from the conditions which combined we call "tubercu-

losis." You note that I refer to "conditions" rather than to a single entity, for tuberculosis is never a single problem. It always involves a number of factors among which the actual infection by the tubercle bacillus is really but a small part. As a matter of fact, the associated pus germs usually produce a greater degree of toxemia and endocrine disturbance than the actual *B. tuberculosis* itself, and all students of the subject admit that a pure tuberculous infection is a rare thing.

No matter whether the trouble is purely tuberculous or whether it is a mixed infection, the thyroid gland is bound to be influenced, not merely by the bacterial products themselves, but by those other wastes which result from the symptom-complex which is associated with the infection. I am referring particularly to the asthenic condition which is pathognomonic of tuberculosis, a condition which, by the way, involves the adrenal glands very definitely and to which I have referred previously in other communications, and which makes serious changes in the cellular chemistry.

If the thyroid mechanism of an individual is in good order the stimulation from these toxins associated with tuberculosis causes thyroid irritability, as a result of which there are well defined symptoms akin to hyperthyroidism. In fact, hyperthyroidism occasionally has been found as a part of the syndrome of tuberculosis, and Emil Goetsch has called particular attention to the value of his method of differentiating true hyperthyroidism and the quite similar condition which is associated more definitely with tuberculosis. I do not believe, however, when the symptoms which simulate hyperthyroidism are found in tuberculosis that they are due to anything else than an irritation of the endocrine glands as a whole, and

the thyroid and adrenal glands together in particular.

If the stimuli to the thyroid are not sudden and severe, *i. e.*, if they are of a long-standing, persistent, nagging variety, there is not so likely to be the strenuous reaction of the thyroid to these influences and in course of time the patients begin to discover that more is wrong than they have been accustomed to. Their asthenia, heretofore comparatively bearable, becomes very much more aggravated; they are much more toxic and their appearance may approximate quite closely that of the patient with myxedema. They have a dull headache in the morning on rising; their joints crack and sometimes are quite painful; their skin is rough and dry, and the appendages of the skin—the hair and nails—are brittle and have lost their usual pliability. Constipation is the rule and digestive conditions are very much aggravated. In other words, they begin to find added to all the usual troubles of the sufferer from tuberculosis another series which are dependent upon hypothyroidism. Here the thyroid gland has been stimulated gradually and persistently until it has been played out and as a result of these long continued stimuli we have a condition of thyroid inefficiency which varies in degree and consequently in the character and extent of its effects upon the body.

To me the condition of infiltration which is so usually present in hypothyroidism is worth a little more extended consideration than has seemed to be the case in the literature on tuberculosis. It will be recalled that Hertoghe, of Antwerp, has emphasized the importance of the infiltration which always accompanies hypothyroidism and is serious in proportion to the degree of thyroid inactivity. Since the thyroid hor-

mone stimulates the cell chemistry, a lack of this hormonal stimulus spells slowed cellular activity with an accumulated toxemia which disturbs the chemical changes going on in the cell structure. The retained wastes increase the density or concentration of the cell fluids and they draw to themselves, from the blood and tissue fluids, enough plasma to equalize the intracellular osmotic tension with that of the blood. It becomes puffy and swelled up, due to the natural physical changes expected under such circumstances. This is the so-called "thyroid infiltration," and it is indeed an important element in many a disorder.

Naturally this infiltration influences circulation very definitely and consequently the resistance of the body to disease, which depends in a very large measure upon a satisfactory circulation, is lowered. The lung is not immune to the influences of the thyroid and this condition of infiltration—which so decidedly affects the skin, the alimentary canal, the larger organs of the body and, in fact, the whole organism—must cause some changes in the lung, *as a result of which the capillary circulation is mechanically lessened* and the extremely important chemical exchanges of oxygen and carbon dioxide by the blood are lessened. So in addition to the general lack of cellular oxidization due to the thyroid insufficiency there is an equally important deficient chemistry due to the slowed gaseous exchange. Naturally this must have a serious influence upon the general conditions in tuberculosis and besides this it must also exert a local influence upon those responses which the body makes in the lungs to the invasion by the organisms involved.

It will be seen, then, that both hyperthyroidism and hypothyroidism are likely to be found in tuberculosis; the former occa-

sionally and most frequently in the early cases and in the most healthy individuals; and the latter more commonly in the cases of longer standing and in individuals in whom toxemia from various sources has lessened materially the body's capacity to respond in the usual manner in which the body resists disease.

I have made a number of observations on quite a number of cases and have come to the conclusion that hypothyroidism is probably nine times as frequent as hyperthyroidism in the average run of cases of chronic pulmonary tuberculosis, and consequently no further consideration will be given in this paper to the condition of hyperthyroidism as it may influence the treatment of tuberculosis save to say that since hyperthyroidism is practically always due to toxemia, no matter whether it is focal or otherwise, every effort should be made to detoxicate and to sedate the thyroid and the sympathetic system by means of suitably fitted together organotherapeutic products. Parenthetically, I may remark that pancreas gland is an excellent sympathetic sedative. In addition to this, adrenal substance sometimes is very efficient in overcoming the asthenia resulting from hyperthyroidism, and a combination of these originally evolved by Crotti has been used successfully by me for a long time in hyperthyroidism. It is just as valuable in tuberculosis in which the hyperthyroid element may be prominent.

The conditions of hypothyroidism, on the other hand, are so commonly present in tuberculosis that it seems to me a very unfortunate thing that the profession so uniformly ignores the endocrine glands and confines their efforts largely to the hygienic, tuberculin and dietetic treatment of tuberculosis. All these measures are good and worthy to be commended, but when there

is a well defined endocrine aspect to any case, no matter whether it may be tuberculosis or not, every effort to treat other conditions which involves the ignoring of the underlying endocrine bases, is going to fail in proportion as it ignores these vital elements.

In other words, the tuberculous patient should always be studied from the standpoint of the endocrine glands and particularly the thyroid. By means of my thyroid function test it is very easy to determine whether an individual's thyroid function is apathetic or unusually sensitive. The use of this test in a number of cases has shown that the thyroid gland does not respond to the step-ladder dosage of thyroid which constitutes the test, and when the obvious treatment is applied—support of the played-out thyro-adrenal system—noticeable changes for the better frequently have followed. I do not mean that to encourage a depleted thyroid or to increase cellular chemistry necessarily is a cure for tuberculosis—far from it; but to ignore the support of these glands when depleted, no matter what other treatment may be given, is to pass by a very rational and useful measure.

The application of this idea is neither empirical nor unscientific. It is logical to presume that a gland with functions as important as those of the thyroid which are involved so definitely in every case of infection and toxemia necessarily must eventually become overworked, and when the endocrine glands are overworked we have hypocrinism; and in this instance, hypothyroidism. We admit that thyroid therapy is a useful measure in obvious cases of hypothyroidism as cretinism or myxedema, but we have been frequently in the habit of overlooking the minor forms. They are

just as important, or even more so.

If the thyro-adrenal system is depleted and we support it, we increase oxidization, we stimulate cellular chemistry, we favor the immunizing response of the body and nutrition, and in every way encourage those very factors upon which we depend for the body's response to such other treatment as may be given simultaneously.

MOTHER'S MILK AND BETTER TEETH; THE IMPORTANCE OF BREAST FEEDING FROM THE DENTAL STANDPOINT.

BY

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There is only one source from which a child's physical and dental equipment can be obtained—and this is from its mother. Hence it is absolutely imperative that mothers should see to their own condition of nutrition, if they would have their child well nourished; for this will secure to the baby the necessary calcium salts from which to build its teeth and bones, as well as to provide the child with the best there is in the way of food, which best is food prepared as Nature intended it to be prepared.

Now, many mothers who are normally fit to nurse their babies fail to discharge this important duty, chiefly because they do not realize the grave results that this neglect of obligation may entail upon the child—not only for the immediate present, but for all the days of its life.

Better Teeth from Mother's Milk.

Therefore, it cannot be too strongly impressed upon mothers that the tooth and bone structure of their babies will suffer as a result of their defection. No social obliga-

tion of the mother should ever be permitted to interfere with her regular feeding of her child—from the maternal font—if the milk is adequate in richness and quantity, and if she is physically able to stand the strain of lactation.

If the milk is deficient in any essential qualities, the mother should see to it that she increases her available supply of a lacteal fluid, rich in mineral salts, by herself drinking liberal quantities of milk and chocolate, and by taking the vegetable oils—such as peanut, olive or pure corn oil—which have been found particularly effective for increasing the milk supply.

Even if the mother's milk should be deficient in amount, she should make every sacrifice to give her baby at least all she has. If she can only supply half the milk her child needs—supplementing the remainder with a good modification of certified cow's milk—there will be a fifty per cent. clear gain to the baby, anyhow. The youngster will have this much advantage over the child fed exclusively on the bottle.

• Pasteurized Milk Not So Digestible.

It should be clearly understood that any milk provided from any source other than the mother herself, especially when pasteurized, or even heated to a temperature above body heat, undergoes a chemical change.

Its protein constituents and the mineral salts so necessary to the development of the child's teeth and bone, as well as to his muscles and blood cells, become partly disorganized.

The casein is rendered more tough and difficult of digestion. It is not split up into the fine flocculent curds that Nature provides for the infant when its mother furnishes its milk.

This makes all the difference in the world

in the development of the baby and especially in the normal development of its teeth and bones.

Of course, pasteurized milk is infinitely better than dirty, germ-infested milk and the most elemental principles of common sense would dictate its use in preference to the use of milk that might produce disease.

But this does not alter the fact that clean "raw" milk is a better food than "treated" milk, and that, if it can be secured it should always be used in its natural state.

Nor should the baby be weaned as long as there is an adequate milk supply, and as long as both parties to the transaction are not deleteriously affected by the arrangement.

For the baby weaned too soon and fed on a milk modification deficient in lime, will develop rickets. Its bones will be softened, its teeth will erupt tardily and irregularly. Its muscles deprived of the necessary lime salts will twitch and quiver. Its nerves will be unstable.

In Dr. Albert Westlake's work on "Babies' Teeth to the Twelfth Year," he says:

"Babies' teeth should receive consideration at least six months before the child is born. Necessary elements in the building up are furnished at this period by the mother's blood. Hence, the need of the purity of the latter.

"Teeth require organic phosphates (particularly phosphates of calcium, as well as carbonates of lime) more than any other part of the body. Therefore, bone food is necessary for the mother—cow's milk, eggs—especially yolks—peas, beans, lentils, whole wheat, outer grains, etc.

"Dietetic treatment for the mother is very important at this period when the bone is forming.

"The intestines of the child are also undergoing vital changes at this period and earlier. This includes primary fixation of the child's intestine in the left hypochondriac region.

"It is, therefore, vital to the offspring to get perfect peristalsis of the mother's intestines. Elimination and evacuation should be regular without drugs."

Mothers Especially Need Real Food.

This is another reason why the mother should abstain from white bread, degerminated cornmeal, certain "breakfast foods" which are not made from the entire wheat, and from an excessive amount of the sugars. For on this diet it is impossible for her to secure the sodium, potassium, iron, magnesium, phosphorus, silica, sulphur and chlorine, and the so-called vitamins which whole wheat and whole food products furnish.

The same is true of "pearled" barley, polished rice, white crackers and biscuits of every variety, and certain other foodless foods which have been robbed of most of their vital, life-giving elements, in the endeavor to make these substances look pretty and to cater to a vitiated appetite, created by usage and custom for these degerminated and demineralized food products.

These are the opinions of many of the ablest medical men in the world, and before many years they will be universally accepted. When they are, the whole human race will be better off, physically and mentally, than it has ever been since those old days when our ancestors fought bloody battles with their teeth, and when to lose a tooth—especially a nice, serviceable, canine tooth—was a hardship from which our grandfather of the Paleolithic age sometimes never recovered.

Craving for Sweets.—Children who show symptoms of inherited weakness of the thyroid gland have a very decided craving for large quantities of sweets, so states Bogert (*Albany Medical Annals*, June, 1920). Craving can be relied on as an index of body needs only when man reverts to his natural state.

TUBERCULOSIS AS AN INDICATION FOR THE INTERRUPTION OF PREGNANCY.¹

BY

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That pregnancy aggravates pulmonary tuberculosis in most cases, is an indisputable fact, established by the scientific evidence of practically every eminent authority both in this country and abroad.

My own clinical observations, based on the analysis of the data from fourteen cases coincides with the law laid down by these authorities, that not only does gestation hasten the progress of pulmonary tuberculosis but that the destructive influence manifests itself during the puerperium as well. As M. Rung expresses it: "In childbed the patient with pulmonary tuberculosis goes impetuously down hill."

Forty years ago Rudolph Virchow called the attention of the profession to the deleterious effect of gestation and labor in tubercular patients and Schlimpert's experimental work in that line is as scientific as Blau's is classical and convincing. They demonstrated the increased susceptibility of pregnant animals to infection with tuberculosis. Blau infected thirteen guinea-pigs with the tubercle bacillus by introducing the bacilli into the vagina. Out of the thirteen there were three which were pregnant and only these three developed tuberculosis. We know that tuberculosis of the genitals often follows pregnancy. One of my own cases proved this to be true; the placenta showed a tubercular infection and general infection followed later.

The blood of the pregnant woman is full of lipoids which form an excellent culture

¹ Read before the Maimonides Medical Society.

medium for the tubercle bacillus. The longer the patient is pregnant the lower becomes her resistance as is shown by her reaction to tuberculin. Also we have the anatomical changes in the mucous membranes of the body, especially of the *bronchi and larynx* favoring the progress of a tubercular infection.

Pulmonary tuberculosis is aggravated in most cases; it is an undeniable fact that 75% of pulmonary tuberculosis becomes worse during pregnancy and 25% either do not show any changes or show a temporary improvement. But this 25% shows so much destructive processes either during the puerperium or soon after. The 25% are those who mislead so many practitioners and give them false hopes which they share with their patients. I have often had patients tell me that Doctor So and So told them, that if they would become pregnant they would likely make a good recovery from their pulmonary tuberculosis. One case especially makes me blush every time I think of it; a woman of about 35 whose menstruation had stopped on account of a very active tubercular process and consequent emaciation was very joyous to hear from her physician that she would soon be delivered of a baby, which would not only be very welcome to her but which she believed would also end her sufferings. She had all the necessary dresses and paraphernalia ready, but when the baby did not come in due time in spite of imaginary labor pains, I was called and was glad to tell her that there was no pregnancy.

The absolute certainty that pregnancy causes an aggravation of pulmonary tuberculosis necessitates as the logical demand, the remedy of the interruption of pregnancy, and this should be done as early as possible. To do this we must be able not only to make

an early diagnosis of tuberculosis but also an early diagnosis of pregnancy. The biological diagnosis of pregnancy is no more a dream today than is the early diagnosis of pulmonary tuberculosis. Petri and others claim to be able to diagnose pregnancy by this means within the first day after the fertilization of the ovum. They use 5% solution of a peptone, obtained from the placenta dissolved in distilled water. One c. c. of this solution is added to one c. c. of blood serum from a suspected case. For control a similar mixture is used made from the serum of a non-pregnant woman. Both mixtures are placed in chambers of a polariscope, put in an oven at a temperature of 37 degrees Celsius and examined hourly. A marked effect will be seen if pregnancy exists, due to the action of the ferment in the serum of the pregnant woman which has the power of digesting the placental peptone, while the serum of the non-pregnant has no effect on the placental peptone.

The apparently well founded objection is offered that by inducing labor we are sacrificing one life for another. This can only be just if the chances of the germinating life of the child is worse than the mother's. The clinical data show us that children of tubercular mothers have a greater mortality rate even in their first year of life than do the mothers. To quote from Schauta: "The women die and the children remain weak and sick and very rarely do they reach their twentieth year, in spite of brilliant extrinsic conditions." The cause not only lies in the transmission of the infection by the placenta but also in the congenital disposition of the children as well as in their infected surroundings, which are a constant menace to their health. So we see that it would be a crime to let the mother die for the child which will probably not reach

maturity and I consider it not only our legal right but our moral duty to sacrifice the life of the unfortunate child for that of the mother, who would otherwise be robbed of practically every chance of recovery.

The indications and the performance of this delicate operation are usually the task which falls to the general practitioner. He must remember that quickness, saving of hemorrhage, and the prevention of infection, in other words, to preserve the physical strength of the patient are the most important points to be considered. This is not accomplished thru the so-called slow methods: metreuryesis, Krause's operation, Scheel's method of puncturing the membranes, or packing the lower uterine segment and cervix with gauze. The only rational treatment in my estimation is quick dilation under ether anesthesia and emptying the uterus.

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PYOGENIC INFECTIONS IN RELATION TO CANCER AND ITS TREATMENT.

BY

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There is no subject in modern medicine that has received more painstaking and extensive investigation than the etiology of cancer with the hope of finding some specific cause and a specific remedy. The longer these investigations continued the more it became apparent that cancer was not due to any one specific cause but to a variety of elements that enter into the cause of producing chronic inflammation and that these chronic inflammations are practically always maintained by chronic infections by the common pyogenic organisms.

In an article by Dr. Paine, director of the Cancer Hospital Research Institute of London, England, on the Origin of Cancer, published in *The Lancet*, Oct. 2, 1920, he takes a positive stand with regard to this contention that chronic infections are responsible for cancer development. In his introduction of the subject he says:

"There are few subjects in medicine more obscure than the origin of cancer, using the

term as implying a malignant overgrowth of epithelial tissues, and, notwithstanding all the thought and labor expended, there is today no consensus of opinion regarding it. From whatever standpoint the subject is approached I am in agreement with those who consider cancer should be studied on the broadest scientific lines as a biologic phenomenon, and not simply as a disorder affecting man. I have devoted many years to the study of the malady, both in man and the lower animal. As the results of that experience I have been driven to the conclusion that cancer is not a specific disease due to the action of a special parasite, but a condition dependent on a disordered growth of epithelium. This condition, which arises in damaged tissues, results from injury, physical or chemical. I consider the most frequent cause is to be found in the subtle activities of various microorganisms whose toxins damage the tissue cells; also the cancer may be a remote sequel of microbic infection and a terminal phase of inflammation. It is in reality a form of tissue-degeneration. I have succeeded in tracing microscopically every step in the development of the morbid process from its inception, and in this brief communication, which is concerned with the origin of cancer, I will endeavor to describe them, reserving their demonstration for another occasion. I intend here to approach the origin of cancer from the clinical standpoint, but, before entering upon a consideration of its pathology, briefly to review the distribution and clinical features of the disorder, and also the circumstance under which it arises."

His studies of breast cancers made it possible to arrive at definite conclusions, and concerning microorganisms and inflammation of the breast says: Thus we see that in man and the lower animals inflammation is a precancerous condition. Bonney drew attention to the fact that the inflammatory changes which precede the onset of cancer in man are not specific and differ in no way from those seen in the chronic stages of septic, syphilitic, or tuberculous inflammations (and to these I would add the widely spread rheumatic). We must not forget that the most frequent cause of inflamma-

tion is microbic infection. The microorganisms usually associated with inflammation of the breast in women are various members of the staphylococcal and streptococcal groups; the tubercle bacillus is sometimes found to infect the breast, but tuberculous inflammation of this organ is rare and generally occurs in young women below the cancer age.

Mice also are very prone to microbic infection when kept in confinement. Mr. Clarke of Acklington, who breeds fancy mice, has kindly supplied me with a number of these animals which had developed lumps in their breasts; in the younger animals these invariably proved to be inflammatory (abscesses), but in the older animals veritably cancers.

I have excised portions of the breast tissue of these animals suffering from both chronic inflammation and cancer of the breast, under aseptic precautions, and, on incubating the tissues in peptone-bouillon, obtained cultures of staphylococci and streptococci. In 20 cases of spontaneous cancer in mice, micrococci were found in the breast of 15, and in 8 of these they were present also in the growth; in 9 instances the organisms were staphylococci and in 6 streptococci. I have found also by experiment that those organisms were pathogenic and capable of producing chronic inflammatory reactions.

In chronic inflammation of the breast the organisms are of low virulence; consequently they provoke a low form of inflammation, and since they are capable of living in the tissues for long periods slowly excreting their toxins, the inflammatory reaction they provoke is chronic.

The first results of the irritant action of the toxins on the tissues will be one of stimulation causing their proliferation, but

if the action is prolonged or increased in intensity it destroys or damages the tissue cells, leading to their necrosis or degeneration, the highly specialized epithelial elements being the first to suffer. It is in this manner I consider that the degeneration of the epithelial cell which precedes the malignant change arises.

He refers to the fact that cancer is most prevalent during the decline of life and ascribes this to the general susceptibility during the declining years to chronic infections.

Much conclusive evidence showing the close relationship of malignant growths to pyogenic infection was brought out by F. St. J. Steadman of London, England (*The Dental Cosmos*, July, 1914) in his paper on "Pyorrhea Alveolaris as a Predisposing Cause of Cancer," read before the Section on Stomatology at the International Congress of Medicine, at London, in 1913.

In this paper he gives extensive statistics coupled with personal investigations which go to show that cancer development is always preceded by chronic infection of long standing. In an analysis of mortality records of 112,801 cases, he finds that, aside from the sexual organs, 85.8 per cent. of malignant growths are found somewhere in the alimentary tract. Of the 143 cases in which cancer of some part of the digestive tract was found all had pyorrhea, and 92.54 per cent. of them in an advanced stage. Furthermore, the particular organ which was involved showed evidence of infection, or there was a history of a long-continued infective process before the tumor developed. He points out that in cancer of the bladder, urethra, uterus, etc., chronic infection always precedes the malignant growth. Cancers of the breast are almost invariably preceded by chronic mastitis. The infection

usually extends over a period of ten to twenty years or more and is seldom less than five years.

In May, 1915, the writer¹ pointed out the etiologic factor of chronic infections to cancer development and the advantages of using vaccines to eliminate the infection before it becomes sufficiently chronic to cause malignant growths. From an immunologic standpoint the pyogenic infective character of cancer development assumes enormous proportions. The infections leading to cancer are admittedly of long standing, offering ample time to institute immunologic treatment before malignant growth has time to develop. These chronic infections are frequently of a trivial character and for that reason are neglected, but the fact that just this type of infections are so liable to cause malignant growths should receive serious attention. Local treatment with antiseptics and irritants often make this class of cases worse. After using polyvalent mixed vaccines in the treatment of pyogenic infections improvement will soon be noticed and if persistently continued the infection will be eliminated. Where applying vaccines in chronic infection, however, any condition which requires surgical treatment should not be neglected and early exsection of suspicious looking tissues must still be regarded as the safest procedure, but meantime immunization must not be neglected.

When dealing with infections that have a tendency to become chronic it must be remembered that such infections usually start in a small way and it is just in this early stage of the infection that therapeutic immunization is most effective. The medical profession has not as yet come to realize the importance of instituting immunotherapy in the so-called minor infections, but

¹ *The Bacterial Therapist*, May 1915.

as the results from this method of treatment become more generally understood a more general application of this method will follow and there is every reason to believe that when the time comes when pyogenic infections will be universally treated by immunization cancer will be a thing of the past.

SOME NON-MEDICINAL THERAPEUTICS.

A Few Practical Suggestions.

BY

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It is wonderful noting to what an extent *rest* in bed two or three days, or more, will change the aggressive character of colds, gripes or influenzas, and most febrile diseases, or those threatening to become febrile, with or without medicine, as I have taken many occasions to observe.

Generally medicine, or the semblance of medicine, must be given or the patient's confidence suffers a depressing lapse. Hypocrates, 300 years B. C., mentioned the importance of mental healing. And if that feeding trough and sewer, known as the intestinal tract, be loaded, medicine or water by the syringe must needs unload it or auto-intoxication ensues to prolong the ailment. Better rest and clear the bowels at first than go too far to get a drug.

And nervous diseases bordering on neurasthenia and hysteria and other forms of nerve-worn conditions are often unamenable to treatment without combining with it rest, from a few days to a few weeks, taking care not to let the mind possess itself of the idea that the bed must become a permanent institution.

No wonder that *hydrotherapy* has grown

into a kind of "school," a cult. In any febrile disease, especially at its beginning, large, heavy towels saturated with hot water, applied from the clavicles to the thighs and reaching around well laterally is soon followed by arrest of the rise and often by rapid fall of the fever, especially in ephemeral or grippy cases to a degree not effected by any safe medicine except possibly laxatives or cathartics. This is not saying that no other medicine is ever useful, as alkalies in acidosis, bromides in acute hysteria, in epilepsy and in other nervous conditions. But this use of water at the time of the temperature's rising I have found of inestimable value. It may also be applied in poultices and counter-irritants, like mustard.

In many cases of general debility, with or without dyspepsia or other known special cause, the morning or evening or both morning and evening tepid bath equals in value any medicinal treatment. Like use in many other ills will suggest itself, as in some scalp or skin diseases, swellings of the hands, feet or knees, or other parts.

And contrary perhaps to anything we would naturally expect, a woman patient suffering from moderate arthritis deformans, with wakefulness from pain in the feet, last summer left the parlor and kitchen and went to work in the garden bare-footed with much evident benefit. Instead of pain at evening and night the feet would glow with pleasant warmth after such work and exposure in the morning's soil and dew.

When we preach the comforting doctrine of rest, the lazy fellow who never did a day's work in his life is delighted with us; but it is for the weak or worn and sick, and not for him.

And *exercise* is one of this world's great

therapeutic agents in aid of health where applicable. I have known a weak heart to grow strong, while the muscles were exercised by the axe, chopping wood. The work beginning very moderately, of course, is followed by a glow of warmth that is delightful.

Warmth in colds and gripes is of prime importance. The cough is soothed by the warmth of the bed, in which freestones or hot water bottles have found place some hours before the patient's approach to it and after.

In Springfield, Mass., two years ago in the early fall, when the cold treatment idea was so prevalent for influenza patients, a tent hospital was provided in Forrest Park, where the victims died so rapidly that it had to be discontinued. Clean *air* is indeed desirable, but with cold air and especially with cold wind blowing over the patient, as I have witnessed, what wonder that the patient perished?

Years ago I called a good doctor friend to see my patient suffering from bronchial trouble, and at times fever. The doctor told the family he could not "take cold" with that fever—have the room cold as possible. I meant to have seen them apart from my friend and tell them differently. I failed to do so. It was winter. The mercury was 30° below zero. The patient was put in a cold bed in an unwarmed room. He was obliged to get up and go to the toilet. In doing so he was seized with a heavy chill—pneumonia and death soon followed.

Clean air for consumptives, and it is almost, not quite so, imperative for certain other chronic diseases. Nervous disease and debilitating diseases generally are aided by warm outdoor air. The tuberculous must have outdoor air, even if it be cold. His germs are house germs, as some flies are

house flies. A few hours in the sunshine destroys them, but they can live long indoors, if not forever.

These are not the only non-medicinal therapeutic agents. A great physician was dying. Around him were gathered numerous doctor friends. They wept. The world was to be deprived of so saving a power! None could take his place. He asked them to raise his head on a high pillow. He then began to say, "I leave behind me several physicians greater than myself." They each wondered which of them he would mention. "Is it I?" each thought. Breathlessly they listened as he labored, till he could say, "Rest, exercise, air, warmth and water."

IS MEAT GOOD TO EAT?

BY

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There are any number of perfectly sincere people who argue that, on a basis of protein percentage and cost, there really is little or no need for converting grass, hay and cereal into beef, and then eating the beef. These folk insist that we could, with profit, emulate the example of our four-footed, seven-stomached brethren, who have nothing else to do but masticate, ruminate and placidly concentrate on the job of converting food stuff into pabulum.

The result, they say, would be to decrease the dangers of under-oxydation and conserve health and efficiency.

This isn't quite true. For it isn't the percentage of protein contained in the food that counts so much as the percentage that can be split down and converted into building pabulum.

It is for this reason that animal proteins, in balanced proportion, are generally to be preferred to proteins derived from vegetable sources. For the most certain way to insure the perfect digestion and utilization of proteins is to take them in their most easily digested and easily assimilated form—meat (preferably beef), eggs and milk.

Dr. William H. Porter, in discussing this subject in his splendid book "Eating To Live Long" says, "Only 2.8% of beef is lost in its passage thru the alimentary canal; 2.9% of eggs and 5.7% of milk, as against 80% of the protein of oats, for instance, which passes undigested thru the alimentary tube of the sturdy Scot, filling him full of the gases of fermentation the while. The same ease of digestion holds true for all the animal foods, but the three here mentioned are the best for practical utility."

Professor Porter has had a wonderful experience as a metabolist and, in my opinion, is as well qualified to advise on this subject as any living man.

As I understand it, the chief problem in the dietary is to select that form which will furnish an adequate amount of protein, carbohydrates (starches and sugars), fats, mineral salts and vitamins, while at the same time maintaining a normal ratio in the excretion of urea and uric acid, together with a minimum showing of indican.

It is also essential to prepare this food in a manner that will facilitate its digestion and assimilation. Food fried in lard or animal fats is most certain to constitute itself a menace. This particular menace, however, can be almost entirely overcome if a pure corn oil be used instead of animal fats in cooking, and if a properly balanced diet with a correct proportion of meat protein be adopted.

If this is done, under- or sub-oxidation

disorders, such as diabetes, nephritis, high blood tension, some forms of rheumatism, lumbago, sciatica, etc., and various nervous conditions can be practically obliterated.

The crux of the matter is to select a diet that will be assimilated and oxidized, that will entail only a normal expenditure of digestive and dynamic energy.

This is simplicity itself, with beef as the *piece de resistance*. Professor Porter and many others have worked out the details. It remains only to hammer the facts into the general consciousness, and then everybody will be happy, healthy, better looking and more efficient.



"ONE FOOT IN THE GRAVE." A Story With a Moral.

BY

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New York City.

At the small health resort the doctor was very busy and there were about twenty of us in the anteroom waiting tensely and anxiously—at least everyone else seemed anxious. I was fifth in line and I waited without any special qualms except a tired, depressed feeling, which I had experienced for a month or more, and a restlessness following a sudden illness of the night before.

The lady next to me was studying a French grammar. She looked around her deprecatingly several times, glanced at me as if to speak, and then continued to study. When she turned a page, she dropped the book, and as I handed it to her, she began

nervously, "I have to do this you know. I have to have something to take my mind off myself. Oh no, I'm not sick. No, it's my husband. The doctor doesn't think he is getting along so well. I have to focus my thoughts on something else to keep from worrying."

I tried to fancy steadying one's nerves with a French grammar and I started to murmur some words of sympathy, but just then the door to the doctor's private office opened and there was an animated chorus of "Good morning, Doctor," and a general air of pleased, eager expectancy.

The doctor, a tall, clean-shaven man with a slight stoop, raised his eyes and looked over his glasses in a very humorous manner. When he spoke his words came tumbling out in a jumbled, half hesitating, but wholly convincing way. His very presence seemed refreshing. He raised one hand, now, twisted an eyebrow, slumped his shoulders and saluted the waiting patients. "Greetings," he called. "Anybody very sick? Anybody half dead? No." He made a grimace. "All well, eh? What do you want with a doctor anyway?" Then he laughed, clapped his hands together, bowed and disappeared with the next patient.

The tenseness seemed relieved. There was a rustle of voices now all over the room and from the buzzing sounds I gathered small bits of conversation.

"Isn't he wonderful? He makes me feel good all over."

"Since my last operation—no, not the one at Rochester—no, the last one—well, I haven't felt as I did before."

"Oh, I can't eat the things other people do. I'm on a special diet, you know. It's my stomach. Have to see the doctor every day."

"I was brought here on a stretcher. Look at me now."

I had a vague feeling of uneasiness. The lady with the French grammar stirred again. "What's the matter with you, dear?" she asked sympathetically. "You look well enough except for your color."

"Oh," I said carelessly, "nothing very much." Then I asked with more interest, "What's the matter with my color?"

"You look," she continued pleasantly, "as if you might have Bright's disease or something like that. The reason I say this is because my dear brother looked just as you do before he died. He died of Bright's. It's a horrible death, my dear. I was with him to the last. The heart is drowned by the blood and they choke to death. People who have it hardly ever recover. My dear brother was only about thirty—such a fine young man."

"Um-m-m," I said. I felt strangely uncomfortable. "I didn't know young people had it," I said. "How does it start?"

"Oh, yes—yes indeed," she continued, "it starts with—well—you really don't know what, but you may look well except for a certain color that isn't very noticeable at first. Then you suddenly feel downcast and nervous and you seem to lose interest in life. Your digestion is poor and"—she hesitated.

"Yes, yes, go on," I said. A horrible fear clutched my heart, for those were my exact symptoms for about a month.

"And," she went on cheerfully now, "you really don't know that you are ill, until sometimes it's too late. Why, even in a month's time you can get past any hope of recovery."

The room felt suffocatingly warm. I did so wish I could see the doctor at once. For no reason whatever a nervousness came over

me and I chewed my fingernail thoughtlessly.

Then from within the doctor's office came a sound of gurgling, a horrible choking sound. It almost nauseated me.

The French grammar lady smiled in a very superior way. "That's a stomach pump," she confided. "I happened to know because my dear brother used to have to swallow them to get a stomach test. It's very excruciating—tiresome too."

"Oh," I said, trying to appear intelligent.

It was the turn of the lady just ahead of me now. As she left her chair, a small boy with a terribly bloated body sat down next to me with his mother on the other side.

I looked at the piteous figure and shuddered. The French grammar lady brightened. "Isn't he ghastly?" she whispered. "He is in the last stages of Bright's. No hope for him and he probably hasn't been sick long either."

I gasped and looked closely at the small figure at my side. I noticed that our hands looked strangely alike in color, but I thought mine was from sunburn. Could it be possible that it was not sunburn? I had every symptom she had mentioned. Could it be that I would look like that child some day? If I could only see the doctor or if I had only listened to my mother and come to see him several weeks before. Maybe it was too late. If I had only taken better care of myself and not tried to keep up with all the dances, parties and my Red Cross work at the same time, and eaten anything and everything at any time of the night or day. Oh, it was all my fault. If I could only see the doctor and find out if my case was hopeless. I began to chew wildly on another fingernail.

The French grammar lady took my hand, "Don't bite your nails, my dear. It's a ter-

rible habit—one of my brother's worst ones up to his death. He was such a nervous man anyway. You really should take care of your nails and not bite them. Such a nervous habit."

"Oh, yes, yes—thanks," I said as politely as possible and began to tie my handkerchief into small knots.

"Your turn, Miss Duveen," said the girl at the desk and I jumped nervously at hearing my own name. I started across the room with the French grammar lady's words ringing in my ears, "Good-bye, dear. Be brave." It seemed at least half an hour before I finally reached the doctor's private office and opened the door.

"Well, young lady," he beamed, "what seems to be the matter with you? Heart trouble, eh?" His kind, jocular voice completely unnerved me. I had had a wretched night with very little sleep.

"Oh, doctor," I began frantically. "Oh, doctor, do you think there's any hope for me? Oh, do you really think I am—oh, doctor."

I began to weep wildly and Dr. Merritt took my hand, rubbed it softly between both of his. Then he patted me on the shoulder and said very kindly, "Well, just cry it out. What's the matter with the girlie? Tell the old doctor. That's what he's here for anyway."

So between nervous sobs I told the doctor all my past symptoms and then I told him what the grammar lady had said to me. Dr. Merritt laughed merrily for an instant and then sobered quickly and said brusquely, "Don't pay any attention to that old hen. She doesn't know what she is talking about. I wish to h—— they would keep their d—— mouths shut in that office."

I gasped again, but this time it was a very comfortable gasp and I laughed and I

couldn't help thinking of my aunt, who was an ardent church member and who could not endure profanity of any sort. Yet, she adored Dr. Merritt and never considered seeing any other doctor. I looked at him keenly and giggled. He certainly had expressed my innermost feelings and I felt somewhat relieved.

The doctor was fumbling around in a lower drawer. "I'll see about you," he said abruptly over his shoulder.

I stopped giggling at once. The stomach pump I thought and I began to swallow quickly and somewhat noisily. "Oh, doctor—oh, doctor," I began weakly.

"Now, now," said the doctor wheeling around suddenly, "don't get so excited. I'm only going to take your blood pressure."

"Oh," I said in a relieved tone, but not comprehending what he meant.

Then Dr. Merritt began to do all the things a doctor usually does—look at your tongue—feel your pulse—and make you miserable generally. All the while he cheerfully talked, with the humorous twinkle in his eyes and an odd way of throwing his head back as if to look quite over you. He talked partly to himself and partly to me.

"Nothing wrong here," he said. "Only a tired girlie. Too many dances, too many parties, too many nerves, too. That's the way with you women—break your fool necks running around—what have you been doing anyway?"

"Oh, doctor," I began guiltily, "I've been going to dances and things, too, but I've been doing Red Cross war work mostly, and yesterday I just felt I couldn't move another step. I've been feeling that way for a month or more and last night I was ill and mother made me come to see you and—"

"Well, well," he interrupted, "Red Cross work, eh? Well, cut it out. Some of it

anyway—Red Cross is all right—needn't make a slave of yourself. Feel bad here (indicating my stomach and back). Liver needs stirring up. Need a little tonic, that's all. Think you're awful sick, don't you? You women get the darndest ideas in your heads. You could just die on imagination. Well, live on it too. Just imagine you feel all right, and with this medicine I'm giving you, you soon will. Use a little 'Christian Science' with life. I believe in it if you take it with medicine. Great idea in its place. Just scared to death, weren't you? Nervous, that's all—fine girlie—be as good as new in a few days. Take this prescription and have it filled and follow directions carefully. Then come back here next week and let me see if you're as near dead as you were today. Bet you're in love anyway?" he added mischievously.

"Oh, no, Doctor," I said rather lamely and then we both laughed heartily and I felt so recuperated that I could have kissed the wicked doctor.

"Well, bye-bye," he sang out, "be a good girl."

I sailed jubilantly out and past the French grammar lady, who was next. As I passed the doctor's window, I could hear her bewailing joyously the fate of her dear ones and lamenting her own condition.

"I'm just so upset and nervous this morning I'm nearly crazy. It's so depressing to wait in the outer office and listen to all those tiresome people," she gurgled on.

"You bet it is," I said to myself and then I pulled out my hand mirror. "Fine color, girlie, fine color," I murmured mockingly, "just like 'my poor brother who died'."

Don't forget that humility and ability usually go together.



RATIONAL ORGANOOTHERAPY

Hyperthyroidism and Its Successful Treatment.—The results of the non-surgical treatment of hyperthyroidism, as Morris points out in a paper (*Medical Record*, Sept. 1, 1920) replete with practical suggestions, are most gratifying. Indeed, the majority of cases improve steadily, if the following plan of treatment is carried out. However, cures do not occur after several weeks' treatment, as usually the overcoming of the thyrotoxicosis is a matter of months. Sometimes, however, all medical measures fail to produce a cure, in which cases, after prolonged medical and X-ray treatment, surgical consideration is in order.

The essential part in the treatment of any disease is the eradication of the cause. This fact is especially true in hyperthyroidism. The cause of this condition is practically always toxic or neurotic in origin. The source of the toxemia is usually an infection of the teeth, gums, tonsils, sinuses, gall-bladder, appendix, genito-urinary tract, etc. The absorption of toxins from the intestines in cases of intestinal stasis is a rather frequent cause. Syphilitic and tuberculous infection have been known to cause this condition. Therefore, the first therapeutic aim should be the discovery and removal of the source of toxemia. In cases of neurotic origin, which includes the rather numerous groups of cases caused by fright plus trauma, diet and rest often effect a cure.

Certain hygienic measures are very useful in treating cases of hypersecretion of the thyroid. Good nursing; pleasant, quiet surroundings; warm, fresh air; two sponge baths daily, with plain or salt water, and the application of an ice bag to the thyroid and the heart, are all quite important. Absolute mental and physical rest is a necessity in the treatment of all but mild cases. The administration of much water, especially the imported Vichy, is of real value.

After discussing in detail the use of diet, medicinal measures and the technical employment of the different physical agencies that have proven serviceable, the author concludes that if, after finding and removing the cause or causes of this affection, we use proper hygienic, dietetic, medical and radio-therapeutic measures we will secure, without having to resort to thyroid surgery, a large proportion of cures.

The Endocrines in Gynecology.—Graves (*New York Medical Journal*, November 6, 1920) recently took up the discussion of the subject to the relationship of the endocrines to the specific neuroses of patients suffering from pelvic disease, and to the histogenesis and function of the internal secreting cells of the ovary. The more one studies the so-called nervousness of women, the more one is impressed with the possibility that the purely nervous mechanism of the body is of secondary importance. It is quite credible that the nerves are only the keys or instruments which are played upon by more dominant agents in the form of the endocrine glands. Whether women may be said to be peculiarly nervous or peculiarly endocrinous, the gynecologist undoubtedly accomplishes more accurate results if he estimates his nervous patients from an endocrinological rather than from a purely neurological viewpoint. Among other points with reference to the ovary as a gland of internal secretion the writer emphasized the following: Dysfunctions of the ovaries are usually attended with various neuroses. Some of these may be due to the direct disharmonious action of other endocrines, especially those that have an affinity for the autonomic nervous system. In evaluating these neuroses one must also take into account those neurotic habits which are the

result of a sense of physical inferiority and characterized as a continued endocrinous emotional state. From an organotherapeutic viewpoint the ovary must be regarded as primarily a homogenous gland, the essential secreting structure being the interstitial cells. Variations in secretions of different parts of the gland are probably differences of degree rather than of kind. A selective action of the secretion from different parts of the gland is not yet proved and if it exists is probably quantitative. All ovarian preparations exert a specific influence on hot flushes. In this respect the residue is the most intensive, but the difference in efficacy of the various preparations depends to some extent on the idiosyncrasy of the patient. In the treatment of menstrual irregularities ovarian extracts exhibit an undoubted specific action, but this action is inconstant. In temporary functional amenorrhea, delayed menses, dribbling before and after catamenia, and small clotting, ovarian therapy is fairly reliable and is at least the best asset the gynecologist at present possesses for these symptoms. For the permanent amenorrheas, especially those associated with pluriglandular disturbances, ovarian therapy has little or no effect on restoring the menstrual function, but is of undoubted value in improving the patient's general health. In certain types of dysmenorrhea ovarian feeding is efficacious, occasionally brilliantly so, but is unreliable and often disappointing after giving early promise. In severe types of dysmenorrhea it is of comparatively little help. For menorrhagia and metrorrhagia ovarian therapy is not indicated.

Organotherapy in Menstrual Disorders with Especial Reference to the Use of Corpus Luteum.—Because of the effect on the uterine mucosa the use of ovarian extract has been resorted to in a number of menstrual disorders of functional type. In this type there is an absence of any anatomical lesions of the uterus or adnexa that will explain the symptoms.

In cases of the so-called functional amenorrhea organotherapy in Stevens' experience (*New Albany Med. Herald*, Sept., 1920) has given relief. While the number of cases benefited is not as large as it ought to be on theoretical grounds, still it is suffi-

ciently large to justify us in hoping for better results with increasing knowledge of the entire endocrine system. In studying the effect of organotherapy on menstruation, we are denied the more exact methods of laboratory tests and animal experimentation, since this process is almost exclusively a human attribute. Hence we are forced to rely on the clinical test, or by observing the effect of organotherapy upon functional pelvic disturbances. This method is somewhat inaccurate, but not necessarily more so than the results of laboratory tests and animal experimentation, for the reason that substances may be, and frequently are, changed chemically by the processes of digestion and absorption in the human body.

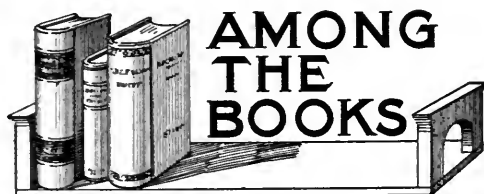
In dysmenorrhea, in irregular or delayed menstruation, organotherapy has accomplished relief, and in some cases entire cure. This form of trouble is not infrequently encountered in young married women. These suffer much pain at the menstrual period; oftentimes there is irregularity, the flow is scanty or maybe profuse. In some selected cases of this kind much relief may be had from a judicious, persistent use of ovarian extract.

In amenorrhea, associated with rapid and excessive deposits of fat—the so-called adiposa genital dystrophy—it has been found that the amenorrhea is probably dependent upon underfunctioning of the pituitary body or hypopituitarism. The disturbance of the normal balance between these two ductless glands results in a failure of the uterine mucosa to perform its function. This symptom-complex has been relieved or cured in an encouraging number of cases.

Organotherapy in Froehlich's Syndrome.—The belief generally held that organotherapy is valueless in affections due to compression of the hypophysis is evidently only partly true, says an editorial writer in the *Med. Record* (Oct. 16, 1920) in discussing two cases reported by De Quervain in *Schweizerische medizinische Wochenschrift* (July 15, 1920, i, 29). The first case was in a boy of ten known to have hypophysis tumor. The left eye had become quite blind, with vision impaired in the right. There was headache and very large sella. Diabetes insipidus was marked. The

appearance was typical of Froehlich's disease with intelligence intact. Neither hypophysis nor thyroid tablets gave material relief. Surgical intervention after some years was apparently limited to decompression. The *status quo ante* returned with death under symptoms of compression. Autopsy revealed a calcified epithelioma of the duct with destruction of most of the hypophysis. The second patient was a girl of twelve who at the age of seven began to evolve the picture of Froehlich's disease. The sella appeared to be normal. At the period of complete evolution the child resembled a fat woman at the menopause. Hypophysis extract was begun, alternating the anterior and posterior lobes and tablets and fresh substance over a long period. The subject began to lose weight while she began to increase in height. The gain was over 12 cm. in one year as against 10 cm. in the preceding four years. While there have been remarkable changes for the better it is yet possible to recognize the Froehlich case in the physique. The menses have not yet appeared. The treatment appeared to show that injury of the posterior lobe will cause fat deposit and that the same lobe also plays a rôle in skeletal growth, altho recently this has been assumed to be associated with the anterior lobe only.

Intussusception in Typhoid Fever.—In an article on this subject A. L. Moreton (*British Journal of Surgery*, April, 1920) concludes: 1. Acute intussusception is one of the rare abdominal complications of typhoid fever. 2. It may occur at any time during the progress of the disease, but usually late or during a relapse. 3. It may be caused by irregular peristalsis due to inflammatory changes in the wall of the gut, or an enlarged Peyer's patch may start the process of intussusception. 4. The intussusception is more commonly of the enterocolic type. If of the enteric type, there may be more than one lesion. 5. The differential diagnosis from perforation may be difficult. 6. The prognosis is good if the patient is submitted to operation, and the results of operative treatment are better than those of perforation. 7. In reducing the intussusception at operation, it should be borne in mind that diseased bowel is being dealt with, and that the utmost gentleness should be used in all manipulations.



Dental Hygiene.—The growth of modern dentistry has involved a certain degree of socialization in theory which makes the dentist an advisor in general hygiene. His field of usefulness involves contacts with many individuals who rarely have recourse to a physician. Because of this, it has been recognized that the dentist should have a practical working knowledge concerning general hygiene as well as his specific information with reference to aural hygiene. Hygienic living plays its part in lessening caries and mouth infections.

For this reason, a text-book on general hygiene viewing the subject from the angle of the dentist is a desirable addition to the literature of the subject. The dentist possesses an opportunity of surveying general hygiene in its broader aspects thru the opportune presentation of *Hygiene—Dental and General*, by C. E. Turner (C. V. Mosby Co., price \$4.00). While the volume bears every evidence of having been hastily compiled, it represents an excellent beginning in presenting the data of hygiene as interpreted from the standpoint of one whose thought is supposed to be devoted to considerations of dentition and dental disorders. It is unfortunate that there are so many errors which cannot be attributed to poor proof-reading. Names are misspelled in an almost reckless way, possibly due to failure to verify references. Inaccuracies of this type, when recognized, create suspicion as to the accuracy of other portions of the text, but for the most part the data presented are well selected and interestingly organized.

On page 89 diabetes is classified under the head of kidney conditions that possess a dominant Mendelian inheritance. On page 208 The Russell Sage Foundation is inaccurately stated to be at Battle Creek, Michigan.

What is particularly significant of the book is that it has been prepared for the dental student and practitioner with a view to assisting them to function more satisfactorily in the field of public hygiene. With this idea in mind, the discussion includes an adequate elaboration of the fundamental facts of disease prevention, personal hygiene and public health, and does not rest content with dental hygiene unrelated to the entire human mechanism and the influences of environmental factors.

Birth Control.—The interest in population and re-population finds much strife among those agitating birth control, and those advocating birth release. The publication of *Pioneers of*

Birth Control in England and America, by Victor Robinson, M. D. (Voluntary Parenthood League, price 75c) affords an excellent résumé of the history of the Birth Control Movement from Malthus to Margaret Sanger. Unfortunately, the history is tinctured with partisanship with reference to Americans who have participated in the recent movement. The group of men and women who were, for example, represented in the Committee of One Thousand of New York City are not mentioned, probably because their mode of attack upon the problem was not deemed acceptable by the group whose radical measures made no impression upon legislators. The position of Dr. Jacobi is over-stressed in some particulars and his relations with a conservative group, as far as legislation was concerned, is entirely omitted. Adequate attention is given to Dr. Wm. J. Robinson and Frederick H. Robinson, the progress in America was not greatly advanced by the efforts of the latter. Far more was done thru the efforts of Frederick A. Blossom whose name merely appears in the appendix. One finds no reference to the Faneuil Hall meeting in Boston in defense of Allison save in the appendix, whereas those who were active in this meeting, as well as in the meeting at the Academy of Medicine in 1915, accomplished far more for birth control than the implied activity of the author in an editorial he had written during 1916.

There is a lack of balance, therefore, in the completeness and accuracy of the historical exposition that is unfortunate, especially if it were born of a direct intention to ignore the service of many who were willing to make the fight at a time when the movement was unpopular. It is equally unfortunate that the Voluntary Parenthood League, thoroly familiar with the history of the movement, particularly in the East, should not have demanded a more thoro and less discriminating account of recent American propagandists.

In due fairness it must be said that the author has written in his usual interesting and charming manner, and has selected his quotations with all due consciousness of their polemic value.

Stammering.—This little book—*Stammering, Its Cause and Cure*, by G. Robinson Skillman (Kuehn Bros. & Company, Inc., Baltimore and Washington)—little only in size but brimful of practical and useful information on the subject of which it treats, is based upon the view that "stammering is a disease of the will, inasmuch as the action of the organs of speech is a faculty of the mind, and the mind directs the body." In Part 1 which is devoted to the cause of stammering, the author presents a clear and easily comprehensible description of the different principles and factors concerned in the production of speech, and then discusses the relation of the mind to the vocal mechanism and the mechanical and mental obstructions to speech. The reader's mind is thus prepared to readily grasp the instruction given in Part 2,

in which the cure of stammering is graphically described in a series of simple exercises for breathing, vocalization and articulation, together with the exercises for memory and concentration. Any intelligent person should be able to follow the directions and thus avoid the expenditure of time and money in attending schools for the treatment of stammering, which after all are available for only a small proportion of those afflicted with this disorder.

Ante-Natal and Post-Natal Physiology.—The value of a knowledge of physiology in an appreciation of conditions of childhood is not to be over-emphasized. The growth of interest in ante-natal care has led to an increased consideration of the physiology of hygiene and pregnancy, but has not concerned itself particularly with the physiology of ante-natal life. It is for this reason, particularly, that one welcomes a most valuable pioneer book dealing with *The Principles of Ante-Natal and Post-Natal Physiology, Pure and Applied*, by W. M. Feldman (Longmans, Green & Co., price \$10.50). In this single volume, which represents a summarizing of physiologic investigations during the past generation, one may find a vast amount of information that has practically been lost because of its distribution thru numerous journals in various languages.

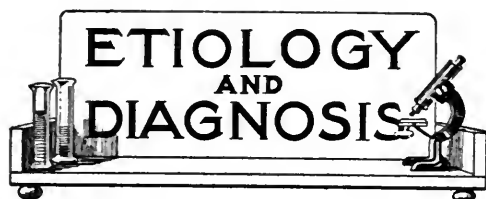
The field of this book is not limited to its usefulness to the physiologist, but should appeal to pediatricists, social workers, and all workers with children possessing a truly scientific interest. Beginning with a discussion of ante-natal physiology, which deals with the physiology of conception, the nature of hereditary processes, and Mendel's and Galton's laws of heredity, it proceeds to a discussion of the post-conceptional or intra-uterine stage of development treating of the mechanics of development, the nutrition, respiration, circulation and secretory growth of the embryo and fetus. There is, likewise, adequate attention paid to the muscular system, nervous system and sense organs, while separate chapters are devoted to the biodynamics of growth and the physiology of pregnancy. The natal period receives brief but adequate treatment. The third part of the book presents a comprehensive study of the post-natal stage, while a brief section of the fourth part deals with the physiology of the premature infant.

In the organization of the text, unusual space is devoted to a review of the macroscopic and microscopic anatomy in connection with the description of the physiologic activities of specific organs. Considerable place is given to the study of applied physics and chemistry as involved in physiologic processes. This material, however, is so arranged that non-mathematical readers may skip these sections without losing the value of the detailed discussion.

The deep scientific interest of the author is reflected not merely in his method of presentation, but in his successful exposition, accurate compilation, and the breadth of his interpreta-

tion of child physiology from conception to the end of the child period. Particularly timely is the discussion of the internal secretions, and his care in sifting out the chaff that is represented in numerous presumptive statements concerning endocrine growth and function. There are a few phases of child life that are more satisfactorily handled than the various parts of the volume devoted to nutrition and metabolism.

As the first complete volume on the physiology of child life, the author has achieved and set a high standard for those who may follow. To be abreast of the subjects covered requires not a mere perusal of the work, but its frequent utilization as a ready reference in solving the numerous problems that are bound up in the normal and abnormal physiology of childhood.



Diagnosis of Tuberculosis of the Kidney.—Eisendrath in a recent issue of the *Medical Record* states that the more important data upon which a diagnosis of renal tuberculosis may be based are:

1. Bladder symptoms. These consist of increased frequency of urination at first at night, but later also during the day; painful urination which is concomitant with the increased frequency and gradually becomes more marked; and great irritability or incontinence.

2. Kidney symptoms consisting of a dull ache or recurrent colicky pains on the affected side or, in cases of bilateral involvement, on both sides.

3. Fever. As a rule the fever is slight unless there is a mixed infection or sudden retention.

4. Urinary findings such as pyuria, hematuria, and the presence of tubercle bacilli in the urine. In closed pyonephrosis, however, neither pyuria nor tubercle bacilli will be found. In open pyonephrosis the bacilli can be demonstrated in about 80 per cent. by the Forassell or Crabtree method.

5. Cystoscopy and ureteral catheterization. This is the most important single method of diagnosis.

6. Pyelography and X-ray examinations. These should be routine in all cases as they give much valuable information as to changes in the renal pelvis and parenchyma.

Etiologic Importance of Tonsils.—The tonsils, according to a writer in the *Medical Council*, play almost as important a part in causing systemic infection as do the teeth, and as their

structure is especially suited to retain infection and still show little or no evidence they are frequently overlooked. The recognition of an acute tonsillar infection is an easy matter, but it is the chronic cases without any marked symptoms in the tonsils that are frequently overlooked.

When the tonsils are much enlarged the presence of tonsillitis is easily determined, but an enlarged tonsil does not always mean an infected tonsil. We often see tonsils in children that distinctly project into the pharynx and do not advise their removal when they are superficial and do not lie embedded between the folds of the soft palate. In adults we usually advise the removal of large tonsils, as they should have undergone retrograde absorption before adult life and only inflammation would cause them to retain their abnormal size.

In children enlarged tonsils are often due to inflammation and usually there is a history of tonsillitis, and these tonsils are generally markedly congested.

The Relation of Bad Housing to Rickets.—

The etiology of rickets, says *The Medical Times* (Lond.) for June, has of late years attracted considerable attention, and several experimental researches have been carried out with a view to solving the problem. The older theory that the disease was caused by a defective dietetic régime, while not absolutely discarded, has assumed a secondary importance, and there is a fair amount of evidence to support the contention that rickets is mainly due to bad housing conditions. Leonard Findlay, of Glasgow, has done much pioneer work in this connection. In an article which appeared in the *Glasgow Medical Journal*, May, 1918, he relates that, during the years 1912, 1913 and 1914, he conducted a statistical study of the dietetic and home conditions of 500 rachitic children and came to the conclusion that the chief factors in the production of the disease were, overcrowding of the home and insufficient exercise in the open air. In conjunction with Noel Paton and Alexander Watson, he made some experiments on puppies, the results of this investigation being reported in the *British Medical Journal* for December 7, 1918. It was found that pups kept in the country and freely exercised in the open air, altho they had actually a smaller amount of milk fat than those kept in the laboratory, remained free of rickets, while the animals kept in the laboratory all became rickety. Dr. J. Lawson Dick, in his small book, "Defective Housing and the Growth of Children" (Lond.: George Allen and Unwin, Ltd., p. 94) pleads strongly in favor of this theory. He says: "Deficiency of food and errors in dieting will aggravate rickets, but no diet, however efficient, will prevent the occurrence of rickets if the child is brought up under slum conditions." He points out that, in Italy, South Africa and Australia, where there is abundance of sunshine and life is much in the open, rickets does not develop, tho the conditions as regards feeding are often very de-

fective. There is no racial immunity. Italians in the slums of London and of New York suffer severely from rickets, tho both the quality and the quantity of the food are much better than they would be in their own country. Australia is beginning to develop rickets in proportion as the towns grow in size and density of location. A mild form of rickets is fairly common among the children of wealthy parents, where the feed-ink of the child is beyond reproach and malt and cod-liver oil form one of the staple articles of diet. These children are thought to be delicate and they are accordingly pampered in closed rooms and deprived of proper air and exercise. The weight of evidence shows that defective housing and overcrowding and the slum conditions under which the children live, with the loss of fresh air, sunshine and exercise which these conditions curtail, are the essential factors in producing rickets.



A Modified Borax Treatment of Epilepsy.—

Marie, Crouzon and Bouttier (*La Presse Médicale*, October 9, 1920), because of the well-known fact that borax (boric acid) has a specific albeit mild power over epileptic seizures, have recently carried out some interesting experiments with the borico-potassic tartrate. This double salt has been termed the "boric emetic," but this term is due to an error, for it possesses not a trace of such properties. It is also known as "soluble cream of tartar." In ordinary bromide medication the potassium salt has always been regarded as stronger than the other bromides, suggesting that the potassium component played some active rôle. Borax has had a limited use for many years. Tartaric acid does not seem to figure actively in the molecule but yields a double salt in which both boric acid and potassium are combined. In excessive doses the salt is a purgative. In testing a new remedy for epilepsy the reduction of the number of convulsive or minor seizures in a large number of epileptics is the criterion. The test is also made from the standpoint of the individual subject, since the treatment is apt to vary much with the personal equation. The only claim made by the authors appears to be that the new salt is more efficacious than any of the older boric preparations and hence may develop some usefulness in bromide-intolerant patients. Further, by acting as a synergist, it may enable one to reduce the usual dose of bromides. In serial attacks and cases of status the authors have succeeded in reducing the number of daily convulsions, while in other cases the number of monthly attacks was cut in two; but the failures

offset such results and show that the drug will hardly supplant bromides in the treatment of epilepsy.

Radium in the Treatment of Malignant Tumors of the Nose and Throat.—Sonnenschein (*Journal of the American Medical Association*, September 25, 1920) thus summarizes his exceedingly interesting article:

1. The future of radium therapy seems very bright, particularly in reference to applications in tumors of the nose and throat; but great caution is advisable in statements regarding actual cures. It is important to watch for recurrences during a period of from two to five years.
2. In reporting cases, authors should give details of the preparation used, the method of application, duration of exposure, etc., in radium treatments.
3. Following up the cases and reporting on them again whenever possible is of the utmost importance in the formulation of definite conclusions regarding the results of radium treatment.
4. Radium is probably of great value before, and certainly after operations. It is very efficient in relieving pain, hemorrhage, discharge, etc., in many inoperable cases.
5. Sarcomas are especially responsive to radiation; the carcinomas yield much less readily, and the squamous type of epithelioma is scarcely amenable to radium at all.
6. Complications, at least those reported, are not so frequent as one would be likely to expect. Burns were the most common ones, but even death may result from toxemia.
7. Radium has many advantages as compared with Roentgen-rays, especially for application in the nose and throat.
8. The diagnosis of the malignant cases should be made by a competent laryngologist, and the radium applied either by him or in cooperation with a radiologist. Only in this way will correct statistics and reliable results be obtained, with greatest benefit to the patient and the safest guidance to the profession.

Management of the Asthma Patient.—Shelton (*Virginia Medical Monthly*, Nov., 1920) says that treatment consists of climatic, drug, specific protein and vaccine. Of these, the specific protein and vaccine are by far the most important.

Climatic. Change of residence from one climate to another will relieve some cases that are sensitive to pollen, by going to a location where that particular pollen does not grow.

Drugs. In the asthmatic bronchitis type, potassium iodide is of considerable value, in that it thins the bronchial secretion enabling the otherwise thick tenacious sputum to be much more easily discharged, affording considerable relief, but it has no effect on the sensitive type of asthma.

The most reliable and quickest acting drug during an attack is adrenalin chloride in 1-1000

solution given hypodermically in ten to fifteen minim doses, repeating as often as necessary. Morphine, atropine and belladonna are very beneficial and probably have in the past been used more than any other drugs. Benzyl benzoate, 20 per cent. solution, in 20 minim doses, gives considerable relief in most cases.

Specific Food-Protein Treatment. The patient should absolutely not touch the protein to which he is sensitive, except in a few cases where the protein is destroyed by thoro cooking. To determine the protein sensitivity, the cutaneous test is most extensively used and the most reliable. It is made by making several small cuts on the flexor surface of the forearm (not deep enough to draw blood) about an eighth of an inch long; on each cut put a protein and to it add a drop of tenth-normal sodium-hydroxide solution, leaving one without any protein as a control, as some skins are so sensitive that they will react to the sodium-hydroxide solution. In half an hour wash and note the reaction. A positive reaction consists of a raised white elevation or urticarial wheal surrounding the cut.

Bronchial asthma, due to animal epidermal and pollen protein, is very successfully treated by subcutaneous injections of the offending protein, but before the treatment can be given skin tests of varying dilutions of the particular protein must be made to find out the initial therapeutic dose which is .1 c. c. of the strongest solution that fails to give a positive reaction, increasing each dose until 1 c. c. is reached, then starting on the next stronger solution in the same manner and continuing until one gets a negative skin reaction.

Bacterial Proteins. Patients who are sensitive to bacterial proteins should be treated with vaccine of the particular organism to which they are sensitive, in the same manner as animal and pollen proteins.

The specific protein treatment outlined above should relieve about 80 per cent. of sensitive bronchial asthmas, and another 10 per cent. should be relieved with the vaccines.

For non-sensitive or asthmatic bronchitis cases, autogenous or mixed stock vaccine is the best treatment, and good results follow in at least two-thirds of the cases.

moving the bowel contents is by means of a glass or metal tube introduced into the bowel with a long rubber attached to conduct the bowel contents into a basin far from the field of operation, and the glass portion long enough (6 or 8 inches) to permit a number of feet of bowel to be slipped over it.

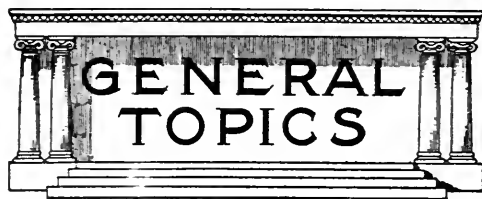
6. The best method of establishing drainage of the obstructed bowel is by passing a rubber tube into the bowel, then the distal end of it thru a hole in the omentum, then out of abdomen thru a stab wound or thru the original incision.

7. It is best, if resection is necessary, to do it at once providing the patient's condition will permit it, but it must be remembered that the general appearance of obstruction patients is very deceptive.

8. When resection is made at once the proximal bowel must be drained also.

9. When a loop of dead or obstructed bowel is not resected it must be drained as well as the proximal bowel. It is sometimes best to leave such a loop outside the abdomen to be removed later so as to avoid the danger of the loop perforating or sloughing inside the abdomen.

Calcium Salts in Acidosis.—Writing in the *Journal American Medical Association*, March 6, 1920, Meyers holds that calcium is a better base to use for overcoming the acid reaction in acidosis than sodium, as the excess of sodium might be harmful while an excess of calcium is not harmful. Meyers believes that the calcium salt will maintain the proper degree of alkalinity of the plasma. The reaction of the urine cannot always be accepted as an indication of the presence of acidosis or of its absence.



Obstruction of the Bowel.—Bowen (*Jour. of Iowa State Med. Soc.*, Jan., 1920) concludes his valuable and comprehensive paper as follows:

1. Early diagnosis and early operation are of first importance.

2. No arbitrary number of hours can be taken as a guide as to whether a case is early or late.

3. An early case requires nothing more than the release of the obstruction, but the operator must be sure that all obstructions are released.

4. Late cases require first, the removal of the contents of the obstructed bowel and the establishment of drainage of the same, and second, the release of the obstruction either at that time or at subsequent operation.

5. The quickest and safest method of re-

The Almond as an All-Year-Round Food Staple.—The exigencies of the great war have compelled all nations to study nutritive values and the economics of food more critically than ever before. Every available source of food supply is being drawn upon to the fullest possible extent by the nations of the world.

In some instances, efforts have been made to extract nutrient material from even straw and sawdust, of course without success.

Leaders are following these researches and discussions with great interest. Numerous important facts in relation to human nutrition which have been long known to scientists, but of which the common people have been ignorant have been brought to the attention

of the hungry masses and have received practical application in the masterly efforts which have been made for their relief.

One of the most striking facts upon which the public attention is focused is the constantly increasing scarcity of flesh foods. The reason is obvious when you study farm conditions and note the densely populated cities recorded by the latest census.

It is a fact that one acre devoted to wheat will produce nearly ten times as much protein, one of the most essential of all food principles, as the same area of land devoted to pasturage for beef cattle.

The same land devoted to the growing of almonds will produce an even greater amount of food protein together with other essential food principles.

In the discussions of food supplies the almond is gaining favor as a national food staple. Experts agree that the only reason almonds have not been used in America as a daily article of diet is the fact that they have been considered a luxury rather than a staple article of food; but as the public becomes better informed respecting the high food value of almonds and especially in view of the steadily rising cost of flesh meats, they are certain to gain higher appreciation.

The Antineuritic and Growth Stimulating Properties of Orange Juice.—Albert H. Byfield and Amy L. Daniels reporting in an investigation conducted with the aid of Rosemary Loughlin (*Am. Jour. of Dis. of Child.*, May, 1920) lay stress on the fact that orange juice has been so universally regarded as an antiscorbutic that its other possible properties as affecting the well-being of artificially fed infants have not received much consideration. The therapeutic effects of the addition of orange juice to the diets of infants suffering from scurvy have been studied by Hess. When orange juice was given, not only did the usual scurvy symptoms disappear, but the children gained in weight and the cardiac signs became normal. The omission of the orange juice was followed by a period of stationary weight until it was again added to the diet.

Hitherto oranges and fruits in general, altho valuable antiscorbutics, have not been regarded as sources of the antineuritic vitamine. Since the antineuritic value of oranges had not been determined, it seemed pertinent to study them from this standpoint, especially in respect to their influence on growth. From preliminary studies of the influence of orange juice on the growth of rats, it was roughly estimated that 45 c. c. of orange juice should stimulate growth, and when this amount was given to infants there was a marked stimulation of growth, but in cases where only 15 c. c. was used there was none but the weight again became stationary.

Seidell, and later, Harden and Zilva have shown that the antineuritic vitamine may be removed quantitatively from a substance containing the two vitamines by adsorption, and

the antiscorbutic material remain unaffected. When 45 c. c. of this filtrate per day was given to babies there was no increase in weight, but when the orange juice was given again there was an immediate gain of weight.

That orange juice contains a growth stimulating material is further evidenced by the fact that rats fed a purified ration, with orange juice as the sole source of the antineuritic vitamine, grew normally. That orange juice contains a considerable quantity of the antineuritic vitamine was also shown by its effect on polyneuritic pigeons. These birds, previously fed polished rice for from twenty-one to thirty-seven days, developed typical polyneuritis, with muscular weakness, retraction of the neck and paralysis of the muscles of deglutition. One of these pigeons, suffering from almost complete paralysis of respiration, was quite restored by the next morning, after the subcutaneous and oral administration of orange juice on the previous evening. While the other pigeon which was given the filtrate from which the vitamine had been abstracted did not recover, but died after four days.

These facts lead us to conclude that orange juice shaken with kaolin and filtered loses its growth stimulating property, while its antiscorbutic potency is not impaired.

The growth stimulating influence of orange juice appears to be due to the antineuritic vitamine contained therein.

Sterilization of Milk by Electricity.—We have heard a good deal both in the old and new worlds regarding the sterilization of milk by electricity. We understand that considerable progress has been made in Great Britain. *The Hospital* (Eng.) (June 5, 1920) contains an interesting article on this subject. It presents certain tables which suggest that, unless immediately and rapidly cooled, pasteurization is as bad if not worse than untreated milk. This view is scarcely in accord with the opinions of some of our enthusiasts in Canada and the United States who have held the extreme view that pasteurized milk was practically always safe.

The method employed is to allow the milk to flow along a tube into which project three electrodes flowing from the middle electrode to the other two. The factors which were varied in the preliminary experiments were: (1) the rate of flow of the milk; (2) the terminal voltage; (3) the amount of current used; (4) the temperature of the milk as it left the tube.

The results were satisfactory when: (1) flow of milk was 2 litres in 4 minutes; (2) terminal voltage about 3,000; (3) amount of current 0.5 amperes; (4) temperature of milk 63° C.

Death Claims Paid by War Risk.—The Bureau of War Risk Insurance announces that the sum of \$1,154,911,719 has been paid out in death claims, and \$29,577,540 for disabilities, during and since the war. Up to August 31 the Bureau had issued \$40,000,000,000 in war risk insurances.





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